

Appendix D

Haile Gold Mine EIS Scoping Report

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Scoping Report

Environmental Impact Statement

Haile Gold Mine

Lancaster County, South Carolina

U.S. Army Corps of Engineers
Charleston District, Regulatory Division

Prepared by
Cardno ENTRIX, Inc.

April 2013



U.S. Army Corps of Engineers
Charleston District

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List of Acronyms

ARNI	Aquatic Resources of National Importance
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	Compensatory Mitigation Plan
DA	Department of the Army
EIS	Environmental Impact Statement
Haile	Haile Gold Mine, Inc.
JPN	Joint Public Notice
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
PIAG	Public Involvement Advisory Group
Project	Haile Gold Mine Project
proposed action	Haile Gold Mine Project
SCDNR	South Carolina Department of Natural Resources
SCELP	South Carolina Environmental Law Project
SELC	Southern Environmental Law Center
USACE	U.S. Army Corps of Engineers Charleston District
USFWS	U.S. Fish and Wildlife Service

1. INTRODUCTION

The U.S. Army Corps of Engineers Charleston District (USACE) conducted a public scoping meeting on October 27, 2011, for an Environmental Impact Statement (EIS) to assess the potential social, economic, and environmental effects of the proposed construction and operation of the Haile Gold Mine. The Haile Gold Mine Project (the Project or proposed action), proposed by Haile Gold Mine, Inc. (Haile), is proposed for the purpose of extracting and processing gold from the Haile ore body underlying wetlands and streams associated with Haile Gold Mine Creek in the vicinity of Kershaw, in Lancaster County, South Carolina. The mine as proposed would affect 161.81 acres of jurisdictional, freshwater wetlands, and 38,775 linear feet of streams.

This scoping report contains background on the Haile Gold Mine Project, the details and a summary of the October 27, 2011 public scoping meeting, and comments received during the scoping period. The formal scoping comment period for the Project began with the publication of the Notice of Intent (NOI) in the Federal Register on September 29, 2011, and ended on November 28, 2011. Appendix A contains a copy of the NOI; and Appendix G contains comments received via U.S mail, email, and oral comments recorded by a court reporter during the public scoping meeting. Comments were received during the public scoping meeting and subsequently in emails, in letters, and via the Project website (www.HaileGoldMineEIS.com). (Note: all data provided herein were valid as of the date of the scoping meeting.)

The USACE has retained the services of a third-party contractor, Cardno ENTRIX, to assist in the EIS process. The Project team consists of USACE and Cardno ENTRIX staff. Cardno ENTRIX is responsible for assisting with preparation of the EIS and supporting documentation, including this Scoping Report. The USACE is responsible for independently reviewing, analyzing, and judging all information in the EIS and supporting documents.

1.1 Background

The Project proposed by Haile is to reactivate the existing Haile Gold Mine near Kershaw, South Carolina for the development of gold resources, to expand the area for open pit mining, and to construct associated facilities. The Haile Gold Mine site encompasses approximately 4,231 acres. Mining would occur in phases involving eight open mining pits over a 12-year period, with pit depths ranging from 110 to 840 feet. The proposed work includes mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation that would affect 161.81 acres of jurisdictional, freshwater wetlands, and 38,775 linear feet of streams.

An application for a Department of the Army (DA) permit was submitted by Haile pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344) on January 12, 2011, for placement of dredge/fill material in waters of the United States for construction of the Haile Gold Mine. The application was advertised in a Joint Public Notice (JPN) (P/N # SAC 1992-24211-4_Lancaster_County) on January 28, 2011. The JPN is available on the Charleston District's public website at <http://www.sac.usace.army.mil/?action=publicnotices.pn2011> and is included in Appendix B.

The purpose of the JPN was to solicit the views of interested state and federal agencies and other parties either interested or affected by the proposed action. The JPN requested written statements regarding the proposed work from those interested in the activity and whose interests may be affected by the proposed work. The JPN comment period lasted for 30 days from the date of the JPN. Pursuant to the Memorandum of Agreement between USACE and U.S. Environmental Protection Agency (USEPA)

entitled “*Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army*,” USACE granted a 30-day extension to USEPA at the request of that agency.

In response to the JPN, letters were received from USEPA; U.S. Fish and Wildlife Service (USFWS); South Carolina Department of Natural Resources (SCDNR); National Marine Fisheries Service (NMFS); Southern Environmental Law Center (SELC); South Carolina Environmental Law Project (SCELP); and an adjacent property owner, A. Carroll Horton.

In a letter to Haile dated April 15, 2011, USACE clarified the regulatory requirements and process pursuant to Section 404 of the Clean Water Act, and requested additional information from Haile about the Project and potential impacts. The USACE also established that the Project was non-water dependent, and that the “overall Project purpose” of the Haile Gold Mine Project is “to open and operate an economically viable gold mining operation in the Carolina slate belt region.”

In response to the USACE letter of April 15, 2011, Haile submitted additional supporting information in a package dated May 26, 2011 (Response of Haile Gold Mine, Inc. to Request for Supplemental Information) (P/N #SAC 1992-24122-4) (Haile Gold Mine, Inc. 2011). The USACE reviewed the supplemental information package submitted by Haile and the comments received on the package from state and federal agencies and other parties, including USEPA, USFWS, SCDNR, NMFS, SELC, and SCELP.

In a letter to Haile dated July 1, 2011, USACE notified Haile of its decision that the Project has the potential to significantly affect the quality of the human environment and that USACE will prepare an EIS. Pursuant to 33 Code of Federal Regulations (CFR) 325.1, USACE identified its designated single point of contact, Dr. Richard Darden, and described its plans to use a third-party contractor to assist with preparation of the EIS as described at 33 CFR 325 Appendix C 8(f)(1) and 40 CFR 1506.5(c). On September 29, 2011, the NOI was published in the Federal Register.

1.2 Purpose of Scoping

Under the National Environmental Policy Act (NEPA), all federal agencies are mandated to consider environmental impacts for all federal government agency decision making. NEPA requires federal agencies to cooperate with other federal agencies and with state and local governments, and to involve public stakeholders or citizens. NEPA created the Council on Environmental Quality (CEQ), which published NEPA regulations. CEQ regulations at 40 CFR Section 1501.7 require an early and open process for determining the scope of issues to be addressed and for identifying significant and non-significant issues related to the proposed action (i.e., scoping).

All persons and organizations with a potential interest in the proposed action—including federal, state, and local agencies; appropriate federally-recognized Indian tribes; interested stakeholders; and minority, low-income, or disadvantaged populations—are urged to participate in the NEPA environmental analysis process. Public participation opportunities are guided by CEQ regulations that include, at a minimum, an NOI, a scoping process, a minimum 45-day public review of the Draft EIS, a public meeting on the Draft EIS, and a minimum 30-day public review of the Final EIS.

Throughout this process, the public can obtain information on the status and progress of the Haile Gold Mine EIS by contacting Dr. Richard L. Darden, Project Manager, by telephone: 843-329-8043 or toll free 1-866-329-8187; or by mail: Charleston District Corps of Engineers, 69-A Hagood Avenue,

Charleston, SC 29403. Media inquiries were referred to the USACE Charleston District Corporate Communications Officer (CCO), Ms. Glenn Jeffries, by telephone: 843-329-8123.

2. SCOPING PROCESS SUMMARY

As part of preparation of the EIS, NEPA requires an early and open process for determining the scope of the issues to be addressed by a study. During this “NEPA scoping process,” an agency will solicit public input. The USACE conducted a public scoping meeting to (1) help identify significant issues and data gaps associated with the proposed action; and (2) assist in identifying other potential alternatives and in analyzing the potential impacts. The USACE will consider the results of the scoping process and additional information to develop a reasonable range of alternatives for meeting the Project purpose, for designing its environmental analysis, and to address all potentially significant environmental effects. In essence, the results of the scoping process will determine the scope of the EIS.

The overall NEPA scoping process consisted of the following elements:

- Publishing the NOI in the Federal Register, including an announcement for the public scoping meeting;
- Distributing a public notice announcing the public scoping meeting and locations to newspapers; federal, state, and local agencies and officials; stakeholders; and other interested parties;
- Developing a public website by which the Project description information and scoping feedback could be exchanged with the public;
- Distributing a press release to media outlets announcing the public scoping meeting;
- Creating a comprehensive mailing list using utility subscriber and property owner contact data to maximize the distribution of scoping information to the local community;
- Sending consultation letters by mail to agencies and tribes including invitations to participate in the scoping process and scoping meetings, and invitations to become cooperating agencies (see Section 2.3 for further details on cooperating agencies);
- Holding a public scoping meeting to inform the public about the proposed action and to solicit oral and written comments on the issues that should be addressed in the EIS;
- Holding an agency scoping meeting to allow resource agency personnel the opportunity to provide scoping comments;
- Reviewing and categorizing oral and written comments to be evaluated in the Draft EIS; and
- Preparing this Scoping Report.

2.1 Public Notices and Distribution of Notices

The NEPA scoping process was initiated on September 29, 2011, when the NOI to prepare an EIS was published in the Federal Register. The NOI provided information regarding the description of the

proposed Haile Gold Mine Project, general alternatives to be considered, further information on the scoping and public involvement process, potentially significant environmental issues, additional review and consultation to be incorporated into the preparation of the Draft EIS, and an estimated timeframe for the availability of the Draft EIS. The NOI included information to encourage public involvement and solicit comments regarding the proposed action; identified the date, time, and location of a public scoping meeting; and provided point of contact information at USACE to submit comments and receive additional information.

A scoping meeting notice was prepared and included information on the proposed action, as well as the date and location of the public scoping meeting (Appendix C). Notification was provided via publication in the Federal Register, in state and local newspapers, on the project website at www.HaileGoldMineEIS.com, on the Charleston District website at www.sac.usace.army.mil, and by regular mail using the Project mailing list.

During the public scoping period, USACE provided the public with a variety of methods by which to comment on the proposed action and issues relevant to the proposed Project:

- Orally and in writing at the public scoping meeting;
- By email to Richard.Darden@usace.army.mil;
- On the Project website at www.HaileGoldMineEIS.com; and
- Via mail to Richard Darden, U.S. Army Corps of Engineers, 69A Hagood Avenue, Charleston, SC 29403.

As other interested parties are identified, they will be added to the mailing list, which will be updated continuously throughout development and finalization of the EIS. Anyone requesting information regarding the EIS will be added to the mailing list, unless otherwise requested. Persons who attended the public scoping meeting have been added to the list.

2.2 Advertisement of Public Meeting in Newspapers

To notify the public, USACE posted advertisements in local newspapers prior to the scoping meeting. The advertisement was submitted to *The State*, *The Kershaw News-Era*, and *The Lancaster News*. A copy of the scoping meeting notice is provided in Appendix C.

2.3 Government-to-Government Consultation

In addition to correspondence with local, state, and federal agencies and Indian tribes, USACE held an interagency scoping meeting with these entities on October 27, 2011. The purpose of the meeting was to provide additional information and solicit the views of interested agencies regarding the potential effects of the proposed action, to identify additional information needs, and to facilitate the process of information sharing.

Citing their regulatory role and technical expertise, USEPA requested in a letter dated December 15, 2011, that USACE designate USEPA as a cooperating agency for development of the EIS for the Haile Gold Mine Project. USEPA cited its responsibilities as a cooperating agency, as outlined in 40 CFR 1501.6. By letter dated January 10, 2012, USACE designated USEPA as a cooperating agency.

2.4 Public Scoping Meeting

An evening public scoping meeting was held in Lancaster County on October 27, 2011, at the Andrew Jackson Recreation Center in Kershaw, South Carolina. This venue was chosen on the basis of convenience to the public throughout the primary region affected by the proposed action, its capacity, and accessibility.

The meeting began with an informal open house from 5:00 p.m. to 7:00 p.m. The open house allowed attendees time to sign in and browse information displays on the EIS process and the Haile Gold Mine Project provided by USACE. Copies of these displays are provided in Appendix D. As the Applicant proposing the Project, Haile was afforded the opportunity to set up a separate information display. Haile provided separate displays regarding their proposed Project in case members of the public had questions for the Applicant. USACE staff members were available to answer questions. Information stations with displays and handouts were available for viewing. Subject matter experts from USACE and the third-party contractor were present at the stations to provide information regarding the proposed action to meeting attendees and to solicit comments from them. The stations presented information on the proposed action, potential environmental issues, and the NEPA process. In addition, a welcome station and court reporter station were available to provide information and to accept oral and written comments. Comment cards were available at several locations for the attendees to fill out and place in the comment form repository.

The District Engineer opened the meeting at 7:00 p.m.; members of the USACE staff described the Project, the EIS process, a general EIS timeline, and the opportunities for public involvement and comment provided during the EIS process. Following the presentation, members of the public were invited to make oral comments in the presence of a court reporter. A total of 26 people made oral comments. The public was also encouraged to submit written comments on the Project. According to the sign-in sheet, 131 people attended the public scoping meeting (Appendix E), and 26 provided comments. The total attendance was estimated at over 200 people, noting that an estimated 100 people in attendance did not sign in and thus could not be accurately counted.

2.5 Public Comments

The formal scoping comment period for the Project was from September 29, 2011, to November 28, 2011. The SELC was provided an extension to submit their comments by December 8, 2011. Written comments were accepted in person at the public scoping meeting; via the Project website at www.HaileGoldMineEIS.com; and by U.S. mail, email, and fax.

A transcript of the public scoping meeting is attached in Appendix F. Copies of all letters received from government agencies and non-governmental organizations are included in Appendix G. All comments received from individual citizens are summarized in Appendix J. These include comments received via letter, email, and submission through the www.HaileGoldMineEIS.com website.

3. COMMENT ANALYSIS

Comments during the NEPA scoping period were received as follows: 26 individuals commented at the public scoping meeting, seven individuals provided comments by email, four individuals submitted comments via the website, and eight letters were received by U.S. mail from the public and organizations.

In addition to the comments received during the formal NEPA scoping period, USACE has included in Appendix H all letters received during the JPN comment period and the comments received in response to Haile's May 26, 2011 supplemental information filing (Haile Gold Mine Inc. 2011). The USACE has taken this action to ensure that the full range of information, issues, and comments about the proposed Haile Gold Mine Project is reflected in the scoping process. Some agencies commented during the JPN comment period but did not send subsequent correspondence during the NEPA scoping comment period.

During the comment period for the JPN, six letters were received: three from federal agencies, one from a state agency, one from a non-governmental organization, and one from an individual member of the public. Comments on Haile's supporting information package were received from three federal agencies, one state agency, and one non-governmental organization.

Comments received after the scoping period will be considered and addressed in the Draft EIS.

3.1 Review and Organization of the Scoping Comments

The Project team reviewed each comment¹ and sorted all comments into 26 categories that are listed in Table 3-1. Appendix I summarizes individual comments received during the JPN comment period that are associated with each category, and Appendix J summarizes the comments received during the NEPA scoping period. Many of the individual letters² addressed more than one issue.

Table 3-1 Categories of Comments Received during Scoping

General	Compensatory mitigation plan
Public involvement	Wildlife and vegetation
Permits and regulations	Land use
The EIS	Socioeconomics
The Applicant	Air, light, and noise
Purpose and need	Cultural resources
Alternatives	Recreation
Indirect and cumulative impacts	Human health
Aquatic resources	Traffic
Ecosystem and watershed	Acid mine drainage and contaminant risk
Surface and groundwater quality and supply	Mining operations
State- and federally listed species	Emergency procedures
Wetlands	Post-closure and reclamation

3.2 Overview of Comments Received

The following sections highlight some of the concerns³ identified in the scoping comments for each of the issue⁴ categories that received the most comments. This is not meant to be a comprehensive summary of all of the comments included in Appendices G and H. These appendices summarize the number of

¹ Input about a topic; may or may not express concern about the topic mentioned. Typically from a commenter (speaker or writer of comments).

² Written submittal containing one or more comments. Typically from a commenter (speaker or writer of comments).

³ A commenter's expression of interest or importance on a particular topic that they believe should be addressed specifically.

⁴ A specific (or general) subject area.

individual comments by category; however, the number of counts per category should not be interpreted strictly to express issue importance. This is because many of the individual comments address more than one issue, and many of the comments express concern about the same issue in different ways.

3.2.1 Water Resources/Aquatic Resources

A wide range of concerns was expressed about potential impacts on water and water-dependent resources, including surface water and groundwater, water supplies, and downstream resources and uses. These concerns were generally categorized into the issues of surface water and groundwater quality and supply, ecosystem and watershed impacts, and aquatic resources. Many comments addressed alteration of the local groundwater levels, lowering of groundwater levels, potential contamination of surface water and groundwater, changes in water quality, and the related effects on drinking water wells and water supplies. Some comments suggested additional data collection, additional groundwater modeling, water monitoring, and additional analyses to address these concerns.

Several comments expressed concern about potential impacts on the groundwater supplies upon which they depend due to a lack of municipal or other alternative water supplies. Stated uses of the groundwater included domestic water supply and agricultural and livestock watering. Comments suggested that analyses be performed to specifically address these issues, including how far impacts from groundwater drawdown may extend from the mine.

The SCDNR requested additional analyses and consultation with their agency on surface waters. Specifically, SCDNR expressed concerns about the effects of diverting water from Camp Branch and Haile Gold Mine Creek on average daily flows, seasonality of instream flows, proportional contributions to downstream Lynches River, and the magnitude of instream flow impacts due to water diversions.

Several comments stressed the important role of the wetlands and streams that could be affected by the Project in maintaining the physical, chemical, and biological integrity of the aquatic resources in the watershed. The USEPA stated that the streams and wetlands in the Project area are Aquatic Resources of National Importance (ARNI). NMFS highlighted that the downstream Little Lynches River and Lynches River are historically important habitat for NMFS trust resources, including shortnose sturgeon (*Acipenser brevirostrum*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), striped bass (*Morone saxatilis*), and American eel (*Anguilla rostrata*)—although the presence of these species has greatly diminished in recent decades due to agricultural and industrial pollution.

The sandhills chub (*Semotilus lumbee*) has been documented to occur in Camp Branch and would be affected by a significant loss of habitat under the proposed action. The SCDNR requested that a mitigation plan be developed for the sandhills chub.

3.2.2 Indirect (Secondary) and Cumulative Impacts

A number of comments addressed concerns over potential indirect (secondary) and cumulative impacts of the proposed Project. A number of comments stressed that indirect and cumulative impacts had not been adequately analyzed or addressed, and requested that they be addressed more comprehensively. A few comments raised the issue of future mining expansions or other mines in the Carolina Slate Belt. The concern was the cumulative impacts that could result from the Haile Gold Mine Project, when added to other future gold mine expansions and/or other new gold mines in the region. Certain comments

addressed the lack of indirect impact analysis on wetlands, streams, and water quality and requested that additional analyses and documentation be submitted to allow a complete evaluation.

Some comments requested additional information from Haile about the scope and extent of future mining plans on the Haile site and elsewhere in the region. One comment encouraged USACE and other federal agencies to consider the ultimate cumulative impacts should additional open-pit or underground reserves be identified in the future. Another comment suggested the geographic and temporal scope of the cumulative effects analysis in the EIS should take into account not only the potential for the proposed mine to expand significantly but also the potential for other mines to follow.

3.2.3 Socioeconomics

The local and regional community was very interested in the potential benefits of the Project to the local economy and jobs, and the general economic stimulus that may occur due to the mine. Many comments pointed out the high level of unemployment in the area and the fact that the mine would bring needed jobs and provide economic opportunities. Comments suggested that increases in local revenues would occur, and that local jobs and small business viability would experience positive effects. One comment suggested that the local economy had already seen benefits from mine exploration and the mining preparations that have already occurred.

In contrast, a number of comments asserted that the economic benefits would not be as large as predicted, the percentage of the jobs projected for local people would not occur, the jobs given to local workers would be low-paying jobs, and the economic stimulus would be short-lived. One comment pointed to the “boom-and-bust” cycles resulting from mining in other areas and was concerned about what would happen when the mine closed.

Other comments on socioeconomic issues included the potential effects of the mine on community services, local infrastructure, housing, and road maintenance. One comment suggested that the small community of Kershaw and other local governments may not be prepared or adequately funded to address the additional service needs (e.g., road maintenance, larger school capacity, and emergency services). Some comments suggested that the economic benefits were far outweighed by the environmental impacts.

Several comments expressed concern that insufficient information has been provided to adequately address economic and socioeconomic issues. Comments suggested that the potential impacts have not been adequately explored and that socioeconomic impacts should be carefully considered in the EIS.

3.2.4 Wetlands and Compensatory Mitigation Plan

The impact on waters of the United States (i.e., wetlands and streams under USACE jurisdiction under Section 404 of the Clean Water Act) and Haile’s proposed Compensatory Mitigation Plan (CMP) was the subject of a considerable number of individual comments. The comments addressed many aspects of the proposed mitigation plan, including the adequacy of the CMP to cover all of the anticipated impacts; the effectiveness of the proposed monitoring and the need for long-term monitoring; the need for a contingency plan for unanticipated impacts on wetlands and streams; the conceptual nature of the CMP and uncertainty in the mitigation credits, the plan’s heavy reliance on upland buffers in the mitigation plan, and the location of mitigation measures in a different ecoregion (out-of-kind mitigation); the need for success criteria and monitoring plans; lack of mitigation for indirect impacts on wetlands and waters; and lack of detail in the CMP, given the size and scope of the overall proposal.

Comments expressed concern over the appropriateness of using the Wetland Evaluation Technique (WET) for evaluating the functional value of pocosin wetlands. USEPA raised the issues of the low functional ratings that had been assigned to many of the streams and wetlands on the Project site and requested the worksheets for their review.

Two or more comments referenced the 2008 Mitigation Rule (Compensatory Mitigation for Losses of Aquatic Resources; Final Rule); they suggested that the proposed CMP was not consistent with the rule and requested that USACE ensure consistency of the Final CMP with the rule.

3.2.5 Alternatives

A number of comments were made regarding the alternatives analysis submitted by Haile, including the adequacy of the alternatives analysis to date, recommendations for ways to perform the alternatives analysis, USACE's responsibility in the alternatives analysis, and the need for broad involvement in the alternatives development and evaluation process.

Comments pointed out that the alternatives analysis should address the need to avoid and minimize potential impacts on streams and wetlands; consider alternative locations for overburden, tailings, roads, and other Project configurations or operational modes; use multiple social, environmental, and economic factors for evaluation of alternatives; consider underground mining; and consider alternatives to Camp Branch for the tailings storage facility to avoid impacts on what SCDNR considers to be a relatively high-functioning stream system.

Some comments encouraged the use of combined agency and environmental committees to develop a full range of alternatives in collaboration with a broader range of technical and public involvement. One comment suggested the use of a multiple accounts analysis approach to assist in development and evaluation of alternatives. Another comment suggested that EIS evaluation should include a multi-stakeholder process for development and evaluation of alternatives, with stakeholder representatives from the city/county government, state (mining reclamation and water quality) and federal agencies, local citizens, environmental/conservation groups, the Project proponent, and potential Project opponents.

3.2.6 Post-Closure and Reclamation

The process of mine closure, details of the mine reclamation plan, and post-closure monitoring and financial assurances were the topics of a number of comments. Several comments expressed concerns about the need for adequate financial assurances for post-closure needs, long-term maintenance and monitoring, financial downturn or bankruptcy, early closure, and any other foreseeable and unforeseen problems. Two comments suggested that the financial commitment should cover site cleanup and a contingency for impacts discovered after the mine is closed. Several comments requested more detailed reclamation plans to address restoration commitments; post-closure monitoring; and protocols for monitoring, interpretation, and reporting.

The SCDNR requested that they be involved in development of the reclamation plans to ensure the maximum opportunity to restore natural resource functions and provide public use and natural resource economic opportunities on the site upon closure, if not before. The SCDNR stated that opportunities exist to work with the State to develop post-closure partnerships for the benefits of natural resources and users.

3.2.7 Public Involvement

A number of comments related to opportunities for public involvement and information needs concerning the Project. Requests included regularly scheduled public information meetings, advance notice of future meetings and updates, and more information about the proposed Haile Gold Mine Project. One comment stated that USACE should require the maximum level of public disclosure to ensure public understanding. Another encouraged USACE to conduct the EIS process in an inclusive and transparent manner to ensure that all concerns are thoroughly and adequately addressed, and that the process meets public expectations. Another comment asked USACE to seriously consider establishing a technical working group (or other similar mechanism) to provide recommendations on key issues as the process moves forward.

3.2.8 Other Comments

Comments addressed a host of other issues of concern not mentioned above; fewer comments related to these remaining topics. Appendices G and H summarize these comments.

3.3 Recommendations for the EIS

All comments received during the comment period for the JPN and the NEPA scoping period will be considered individually and collectively during preparation of the Draft EIS. Based on the information available, and comments received from the public and a federal agency, recommendations for the EIS include fully addressing the issues that have been raised; providing for an open and inclusive public involvement process; providing additional information to the community about the specifics of the proposed Project; requesting additional information from the Applicant in areas where insufficient information many have been provided; and continuing to obtain all relevant documents, studies, models, and other information to prepare the Draft EIS.

4. FUTURE PUBLIC INVOLVEMENT

Additional opportunities for public involvement and comment will be provided throughout development of the EIS. In addition to the remaining public participation steps required by CEQ regulations—a minimum 45-day public review of the Draft EIS, a public meeting on the Draft EIS, and a minimum 30-day public review of the Final EIS—USACE has planned and initiated a number of other opportunities for public awareness, involvement, and participation. These include Project website updates; establishing and holding meetings with a Public Involvement Advisory Group (PIAG); interagency coordination meetings; newsletters; and formal and informal meetings with interested members of the public, community groups, and individuals.

As part of an enhanced public involvement effort, USACE has established a PIAG consisting of representatives of various interests, including local community members, environmental advocacy groups, mining technical experts, regulatory agencies, and Haile. The group will play a vital role in the public involvement component of the Project.

Since the public scoping meeting on October 27, 2011, USACE held an additional public information meeting on January 23, 2012, and held the first meeting of the PIAG on January 25, 2012. The USACE plans to host public involvement meetings in April 2012. Newsletters providing updates on various analyses will be sent to entities on the mailing list, and information will be posted on the Project website: www.HaileGoldMineEIS.com. Agencies and the public will be notified when the Draft EIS is available for review and comment. The USACE will host a public hearing to gather comments on the Draft EIS.

5. LITERATURE CITED

Haile Gold Mine, Inc. 2011. Response of Haile Gold Mine, Inc. to Request for Supplemental Information (P/N #SAC 1992-24122-4).

Appendix A

Notice of Intent to Prepare a Draft Environmental Impact Statement for the Haile Gold Mine Project in Lancaster County, South Carolina

PRB with specific PRB panel assignments being made from this group. Executives listed will serve a one-year renewable term, effective September 16, 2011.

Office of the Secretary of Defense

Chairperson

Christine Condon

PRB PANEL MEMBERS

Ahmed, Sajeel	Liotta, Jay
Anderson, Gretchen	McFarland, Katharina
Bexfield, James	McGrath, Elizabeth
Bradley, Leigh	Middleton, Allen
Bunn, Brad	Milks, Thomas
Cabrera, Louis	Morgan, Timothy
Cofer, Jonathan	Pennett, John
Conklin, Pamela	Peters, Paul
Durand, Shari	Pontius, Ronald
Ewell, Webster	Rogers, Angela
France, Joyce	Russell, James
Frothingham, Edward	Shaffer, Alan
Hinkle-Bowles, Stephanie	Snavelly-Dixon, Mary
Hollis, Caryn	Stein, Joseph
Hopkins, Arthur	Wennergren, David
James, John Jr.	Wright, Garland
Koffsky, Paul	Wright, Jessica
Kozemchak, Paul	Yarwood, Susan

Dated: September 26, 2011.

Aaron Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

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DEPARTMENT OF DEFENSE

Defense Acquisition Regulations System

[Docket No. DARS-2011-0050-0002]

Submission for OMB Review; Comment Request

ACTION: Notice.

The Defense Acquisition Regulations System has submitted to OMB for clearance, the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

DATES: Consideration will be given to all comments received by October 31, 2011.

Title, Associated Forms and OMB Number: Defense Federal Acquisition Regulation Supplement (DFARS) Part 229, Taxes, and related clause at DFARS 252.229-7010; OMB Control Number 0704-0390.

Type of Request: Extension.

Number of Respondents: 75.

Responses Per Respondent: 1.

Annual Responses: 75.

Average Burden Per Response: 4 hours.

Annual Burden Hours: 300 hours.

Needs and Uses: DoD uses this information to determine if DoD contractors in the United Kingdom have attempted to obtain relief from customs duty on vehicle fuels in accordance with contract requirements.

Affected Public: Business or other for-profit; not-for-profit institutions.

Frequency: On occasion.

Respondent's Obligation: Required to obtain or retain benefits.

OMB Desk Officer: Ms. Jasmeet Seehra.

Written comments and recommendations on the proposed information collection should be sent to Ms. Seehra at the Office of Management and Budget, Desk Officer for DoD, Room 10236, New Executive Office Building, Washington, DC 20503.

You may also submit comments, identified by docket number and title, by the following method:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the instructions for submitting comments.

Instructions: All submissions received must include the agency name, docket number, and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the Internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information provided. To confirm receipt of your comment(s), please check <http://www.regulations.gov> approximately two to three days after submission to verify posting (except allow 30 days for posting of comments submitted by mail).

DoD Clearance Officer: Ms. Patricia Toppings.

Written requests for copies of the information collection proposal should be sent to Ms. Toppings at WHS/ESD/Information Management Division, 4800 Mark Center Drive, 2nd Floor, East Tower, Suite 02G09, Alexandria, VA 22350-3100.

Dated: September 23, 2011.

Ynette R. Shelkin,

Editor, Defense Acquisition Regulations System.

[FR Doc. 2011-25047 Filed 9-28-11; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Defense Acquisition Regulations System

Commercial Item Handbook

AGENCY: Defense Acquisition Regulations System, Department of Defense (DoD).

ACTION: Request for public input.

SUMMARY: DoD has updated its Commercial Item Handbook. The purpose of the Handbook is to help acquisition personnel develop sound business strategies for procuring commercial items. DoD is seeking industry input on the contents before finalizing the Handbook.

DATES: Comments should be submitted in writing to the address shown below on or before November 30, 2011, to be considered in the formation of the final Handbook.

ADDRESSES: You may submit comments to the Office of the Director, Defense Procurement and Acquisition Policy, Attention OUSD(AT&L)DPAP/CPIC, 3060 Defense Pentagon, Washington, DC 20301-3060. Comments also may be submitted by e-mail to CI_Handbook@osd.mil.

FOR FURTHER INFORMATION CONTACT: Ms. Cassandra R. Freeman, 703-693-7062, or by e-mail at Cassandra.Freeman@osd.mil.

SUPPLEMENTARY INFORMATION: On July 1, 2009, DoD published a request for public input on the draft Commercial Item Handbook issued by the Office of the Secretary of Defense (Acquisition, Technology, and Logistics) in November 2001. Comments were received and incorporated. A draft of the updated Commercial Item Handbook can be found at <http://www.acq.osd.mil/dpap/cpic/draftcihandbook08012011.docx>. DoD is seeking industry input on the contents before finalizing the Handbook.

Ynette R. Shelkin,

Editor, Defense Acquisition Regulations System.

[FR Doc. 2011-25048 Filed 9-28-11; 8:45 am]

BILLING CODE P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Intent To Prepare a Draft Environmental Impact Statement (DEIS) for the Haile Gold Mine in Lancaster County, SC

AGENCY: Department of the Army, U.S. Army Corps of Engineers.

ACTION: Notice of Intent.

SUMMARY: The U.S. Army Corps of Engineers, Charleston District intends to prepare a Draft Environmental Impact Statement (DEIS) to assess the potential social, economic and environmental effects of the proposed construction and operation of a gold mine in order to extract and process gold from the Haile ore body in wetlands and streams associated with Haile Gold Mine Creek, by Haile Gold Mine, Inc. (Haile) in the vicinity of Kershaw, in Lancaster County, South Carolina. The DEIS will assess potential effects of a range of alternatives.

DATES: *General Public Scoping Meeting:* One Public Scoping meeting is planned for Thursday October 27, 2011 beginning at 5 p.m. EDT at the Andrew Jackson Recreation Center, 6354 N Matson St, Kershaw, SC 29067.

FOR FURTHER INFORMATION CONTACT: For further information and/or questions about the proposed project and DEIS, please contact Dr. Richard L. Darden, Project Manager, by *telephone:* 843-329-8043 or toll free 1-866-329-8187, or by *mail:*

CESAC-RE-P, 69-A Hagood Avenue, Charleston, SC 29403. For inquiries from the media, please contact the Corps, Charleston District Corporate Communications Officer (CCO), Ms. Glenn Jeffries by *telephone:* (843) 329-8123.

SUPPLEMENTARY INFORMATION: An application for a Department of the Army permit was submitted by Haile pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) on January 12, 2011 and was advertized in a Joint Public Notice, P/N # SAC 1992-24211-4 Lancaster County on January 28, 2011. The public notice is available on Charleston District's public Web site at: <http://www.sac.usace.army.mil/?action=publicnotices.pn2011>.

1. *Description of Proposed Project.* The project proposed by Haile is to reactivate the existing Haile Gold Mine near Kershaw, SC for the development of gold resources, to expand the area for open pit mining, and to construct associated facilities. The Haile Gold Mine Site encompasses approximately 4,231 acres. Mining will occur in phases involving eight open mining pits over a twelve-year period, with pit depths ranging from 110 to 840 feet deep. The proposed work includes the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation that will impact 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. Construction drawings provided by the

applicant are included in the original joint public notice of January 28, 2011, and are available on Charleston District's public Web site at <http://www.sac.usace.army.mil/?action=publicnotices.pn2011>.

2. *Alternatives.* A range of alternatives to the proposed action will be identified, and those found to be reasonable alternatives will be fully evaluated in the DEIS, including: The no-action alternative, the applicant's proposed alternative, alternative mine locations and mine plans, alternative mining methods and processes, alternatives that may result in avoidance and minimization of impacts, and mitigation measures not in the proposed action. However, this list is not exclusive and additional alternatives may be considered for inclusion.

3. *Scoping and Public Involvement Process.* A scoping meeting will be conducted to gather information on the scope of the project and alternatives to be addressed in the DEIS. Additional public and agency involvement will be sought through the implementation of a public involvement plan and through an agency coordination team.

4. *Significant Issues.* Issues associated with the proposed project to be given detailed analysis in the DEIS are likely to include, but are not necessarily limited to, the potential impacts of the proposed Haile Gold Mine on surface and groundwater quality, aquatic habitat and biota, wetlands and stream habitats, federal and state listed species of concern, indirect and cumulative impacts, drinking water supplies, mitigation, emergency response and contingency plans, mine closure and rehabilitation, conservation, economics, aesthetics, general environmental concerns, historic properties, fish and wildlife values, flood hazards, land use, recreation, water supply and conservation, water quality, energy needs, safety, and the needs and welfare of the people.

5. *Additional Review and Consultation.* Additional review and consultation which will be incorporated into the preparation of this DEIS will include, but will not necessarily be limited to, Section 401 of Clean Water Act; Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act; the National Environmental Policy Act; the Endangered Species Act; and the National Historic Preservation Act.

6. *Availability of the Draft Environmental Impact Statement.* The Draft Environmental Impact Statement (DEIS) is anticipated to be available late in 2012. A Public Hearing will be

conducted following the release of the DEIS.

Edward P. Chamberlayne,
Commander, U.S. Army Corps of Engineers,
Charleston District.

[FR Doc. 2011-25140 Filed 9-28-11; 8:45 am]

BILLING CODE 3720-58-P

DEPARTMENT OF ENERGY

Issuance of a Loan Guarantee to Tonopah Solar Energy, LLC, for the Crescent Dunes Solar Energy Project

AGENCY: U.S. Department of Energy.

ACTION: Record of decision.

SUMMARY: The U.S. Department of Energy (DOE) announces its decision to issue a Federal loan guarantee under Title XVII of the Energy Policy Act of 2005 (EPAct 05), as amended by Section 406 of the American Recovery and Reinvestment Act of 2009 (Recovery Act), to Tonopah Solar Energy, LLC (TSE), for construction and start-up of the Crescent Dunes Solar Energy Project (the Project). The Project is a proposed 110-megawatt solar power generating facility based on concentrating solar power technology, using mirrors and a central receiver, on approximately 2,250 acres of U.S. Bureau of Land Management (BLM)-administered lands in Nye County, Nevada. The environmental impacts of construction and start-up of the Project were analyzed in the *Final Environmental Impact Statement for the Tonopah Solar Energy, LLC, Crescent Dunes Solar Energy Project, Nye County, Nevada* (75 FR 70917, November 19, 2010) (FEIS), prepared by BLM with DOE as a cooperating agency. BLM consulted DOE during the preparation of this EIS, DOE provided comments, and BLM addressed those comments in the FEIS. DOE subsequently determined that the Project analyzed in the FEIS was substantially the same as the Project that would be covered by the DOE loan guarantee, and DOE adopted the FEIS (76 FR 7844; February 11, 2011).

ADDRESSES: Copies of this Record of Decision (ROD) and the FEIS may be obtained by contacting Angela Colamaria, DOE National Environmental Policy Act (NEPA) Document Manager, Environmental Compliance Division, Loan Programs Office (LP-10), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585; telephone (202) 287-5387; or e-mail at Angela.Colamaria@hq.doe.gov, or by accessing these documents on the DOE NEPA Web site at <http://>

Appendix B

Joint Public Notice

JOINT
PUBLIC NOTICE

CHARLESTON DISTRICT, CORPS OF ENGINEERS
1949 Industrial Park Road, Room 140
Conway, South Carolina 29526

and

THE S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Office of Environmental Quality Control
Water Quality Certification and Wetlands Programs Section
2600 Bull Street
Columbia, South Carolina 29201

REGULATORY DIVISION
Refer to: P/N # SAC 1992-24122-4IA

28 January 2011

Pursuant to Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1341), an application has been submitted to the Department of the Army and the South Carolina Department of Health and Environmental Control by

HAILE GOLD MINE, INC.
ATTN: DAVID THOMAS
7283 HAILE GOLD MINE ROAD
KERSHAW, SC 29067

for a permit to construct and operate a gold mine in order to extract and process gold from the Haile ore body in

HAILE GOLD MINE CREEK

at a location approximately 3 miles north of the City of Kershaw near the intersection of US Highway 601 and Haile Gold Mine Road, Lancaster County, South Carolina (Latitude: 38.5802°N; Longitude -80.5401°W).

In order to give all interested parties an opportunity to express their views

N O T I C E

is hereby given that written statements regarding the proposed work will be received by both of the above mentioned offices until

30 Days from the Date of this Notice,

from those interested in the activity and whose interests may be affected by the proposed work.

The proposed work consists of the excavation and fill of 161.81 acres of wetlands and 38,775 linear feet of streams. In detail the work consists of the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation of 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. Phased mining will take place involving eight open pits over a twelve year period ranging in depth from 110 to 840 feet. In each pit the surface layer, consisting of the existing seed bank and growth media, will be removed and stockpiled for use during reclamation activities. Next, several tons of overburden (waste rock) will be excavated and stockpiled for future backfilling of the pit. Once the overburden is removed, ore will be mined using 6 inch diameter bore holes, explosives and wheeled loading equipment to load 100-ton capacity off-road mining trucks. Following ore removal, the pit will be backfilled with overburden. Ore will be processed in onsite

28 January 2011

milling facilities. Once the gold has been extracted, the remaining material or tailings will be treated to maintain a pH between 8.0 and 8.5 and concentration of less than 50 ppm of cyanide and pumped to an approximately 600 acre Tailings Storage Facility (TSF). Once mining ceases, the TSF will be encapsulated with geosynthetic material and a minimum of 2' of growth media. Any water leaching from the TSF will be monitored and treated prior to discharge into the Little Lynches River. Mining activities will take place seven days a week, 365 days a year. See attached plans and detailed project description, sheets 1 through 58 of 58 dated January 21, 2011.

The project purpose is to construct a viable mine and mill to recover precious metals from the Haile gold deposit.

According to the applicant, extensive geological investigations, sampling and drilling have confirmed that the Haile Gold Mine has economic mineral resources located on its site. From these investigations, the owner has determined that the proposed facilities and operations cannot be moved to another site due to resource location, project economics and land ownership/availability. Four onsite alternative situations have been investigated in development of the Least Environmentally Damaging Practicable Alternative including: 1) No-action alternative, 2) Twenty-one alternative site plans, 3) the preferred alternative, and 4) No-pit backfill alternative plan.

Mitigation is being proposed in the form of a permittee responsible mitigation plan that includes restoration and enhancement of 64,486 linear feet of streams, preservation of 32,585 linear feet of streams, restoration and enhancement of 190.11 acres of wetlands and preservation of 17.6 acres of wetlands. Additionally, out-of-kind mitigation is being proposed in the form of preservation by transferring fee simple ownership of 642 acres (Parcel A - 590 acres and Parcel B - 52 acres) of conservation land adjacent to the Forty Acre Rock Heritage Preserve and Wildlife Management Area, designated as a National Natural Landmark. All proposed mitigation will take place in four areas within the same watershed as the impact site. The four subject areas are identified as Flat Creek Headwaters Mitigation Area, Little Lynches River Mitigation Area, Lynches River Headwaters Mitigation Area and Flat Creek Heritage Preserve Expansion Area. A location map of the mitigation sites is attached.

NOTE: Plans depicting the work described in this notice are available and will be provided, upon receipt of a written request, to anyone that is interested in obtaining a copy of the plans for the specific project. The request must identify the project of interest by public notice number and a self-addressed stamped envelope must also be provided for mailing the drawings to you. Your request for drawings should be addressed to the

**U.S. Army Corps of Engineers
ATTN: REGULATORY DIVISION
1949 Industrial Park Road, Room 140
Conway, South Carolina 29526**

The District Engineer has concluded that the discharges associated with this project, both direct and indirect, should be reviewed by the South Carolina Department of Health and Environmental Control in accordance with provisions of Section 401 of the Clean Water Act. As such, this notice constitutes a request, on behalf of the applicant, for certification that this project will comply with applicable effluent limitations and water quality standards. The District Engineer will not process this application to a conclusion until such certification is received. The applicant is hereby advised that supplemental information may be required by the State to facilitate the review. Persons wishing to comment or object to Water Quality Certification must submit all comments in writing to the S.C. Department of Health and Environmental Control at the above address within thirty (30) days of the date of this notice.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Implementation of the proposed project would impact approximately (165) acres of estuarine substrates and emergent wetlands utilized by various life stages of species comprising the red drum, shrimp, and snapper-grouper management complexes. Our initial determination is that the proposed action would not have a substantial individual or cumulative adverse impact on EFH or fisheries managed by the South Atlantic Fishery Management Council and the National Marine

Fisheries Service (NMFS). Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

Pursuant to Section 7(c) of the Endangered Species Act of 1973 (as amended), the applicant has provided a protected species survey for the property associated with the activity described above. Based upon this report, the District Engineer has determined that the project is not likely to adversely affect any federally endangered, threatened, or proposed species or result in the destruction or adverse modification of designated or proposed critical habitat. This public notice serves as a request for written concurrence from the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service on this determination.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), this public notice also constitutes a request to Indian Tribes to notify the District Engineer of any historic properties of religious and cultural significance to them that may be affected by the proposed undertaking.

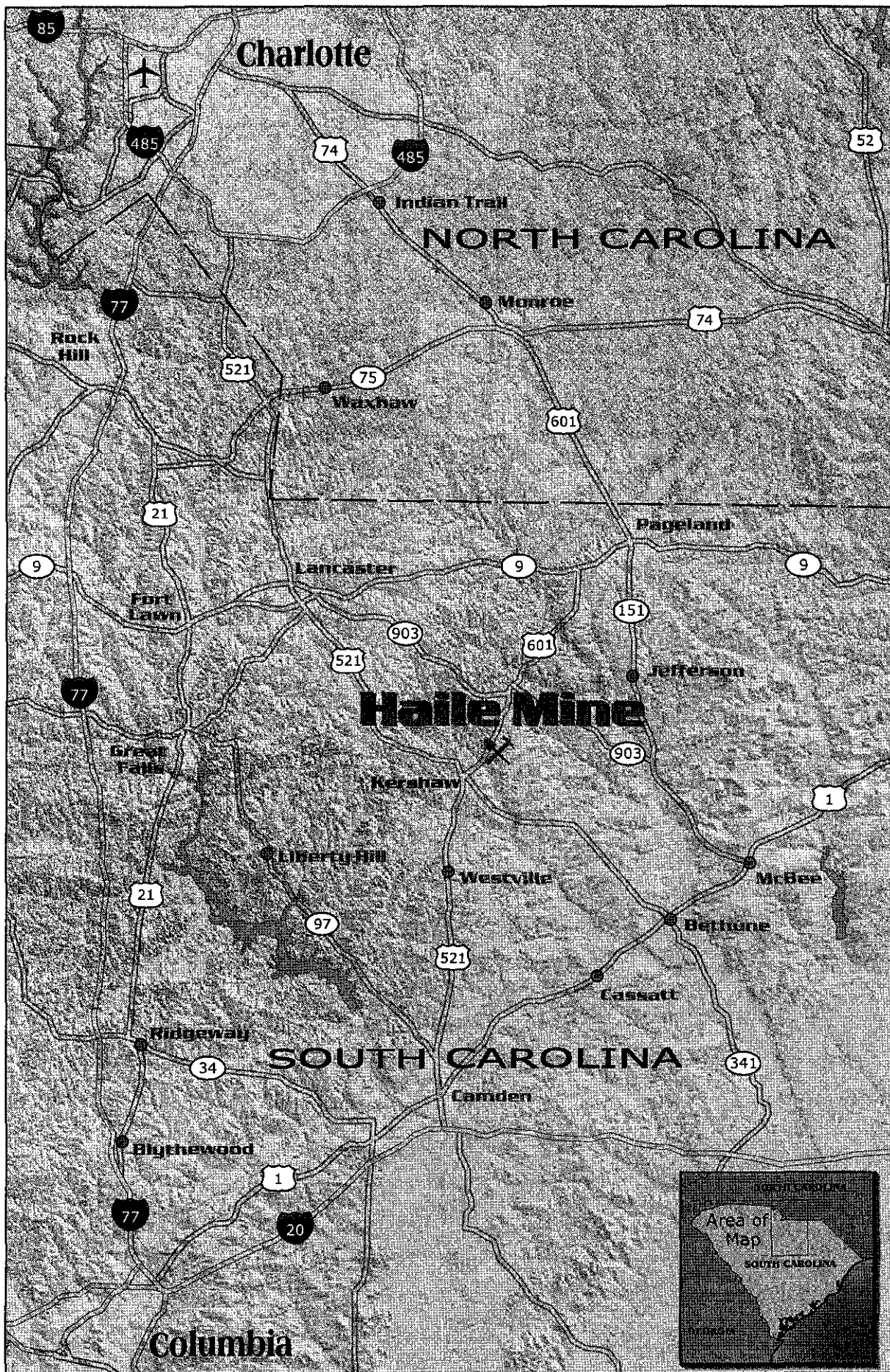
In accordance with the NHPA, the District Engineer has also consulted the latest published version of the National Register of Historic Places for the presence or absence of registered properties, or properties listed as being eligible for inclusion therein, and this worksite includes one historic structure, Site 0946, which is eligible for listing as well as several others that are either not eligible or require evaluation. Additionally, several sites labeled as Historic Areas are scattered throughout the site. The applicant has coordinated closely with the State Historic Preservation Office throughout site preparation work. To insure that other cultural resources that the District Engineer is not aware of are not overlooked, this public notice also serves as a request to the State Historic Preservation Office to provide any information it may have with regard to historic and cultural resources.

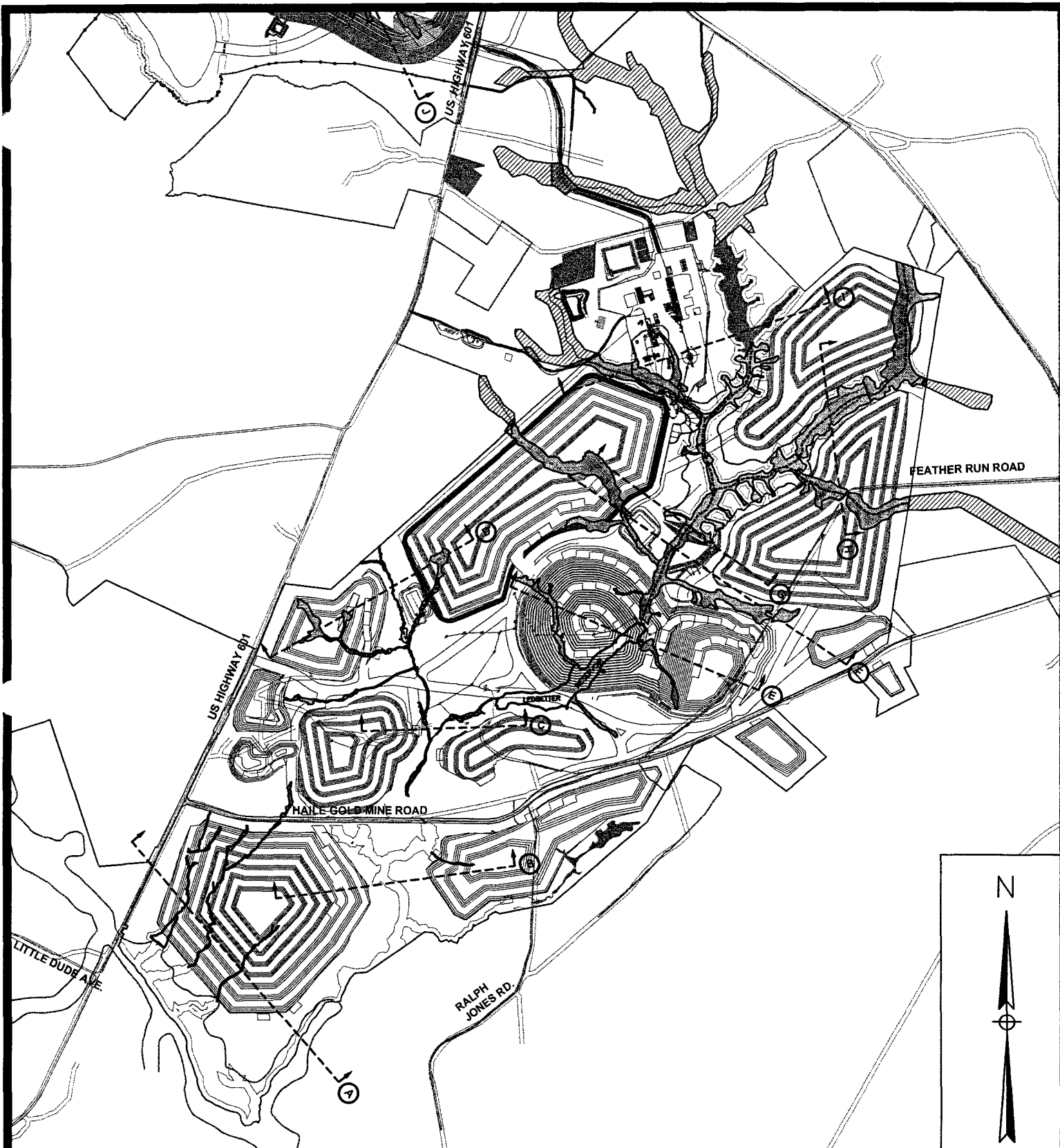
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state, with particularity, the reasons for holding a public hearing.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the activity on the public interest and will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency (EPA), under authority of Section 404(b) of the Clean Water Act and, as appropriate, the criteria established under authority of Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the project must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the project will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. A permit will be granted unless the District Engineer determines that it would be contrary to the public interest. In cases of conflicting property rights, the Corps of Engineers cannot undertake to adjudicate rival claims.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this project. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

If there are any questions concerning this public notice, please contact Sharon Abbott at 843-365-4239.





OVERALL SITE LAYOUT

HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

2000 0 2000 4000 6000



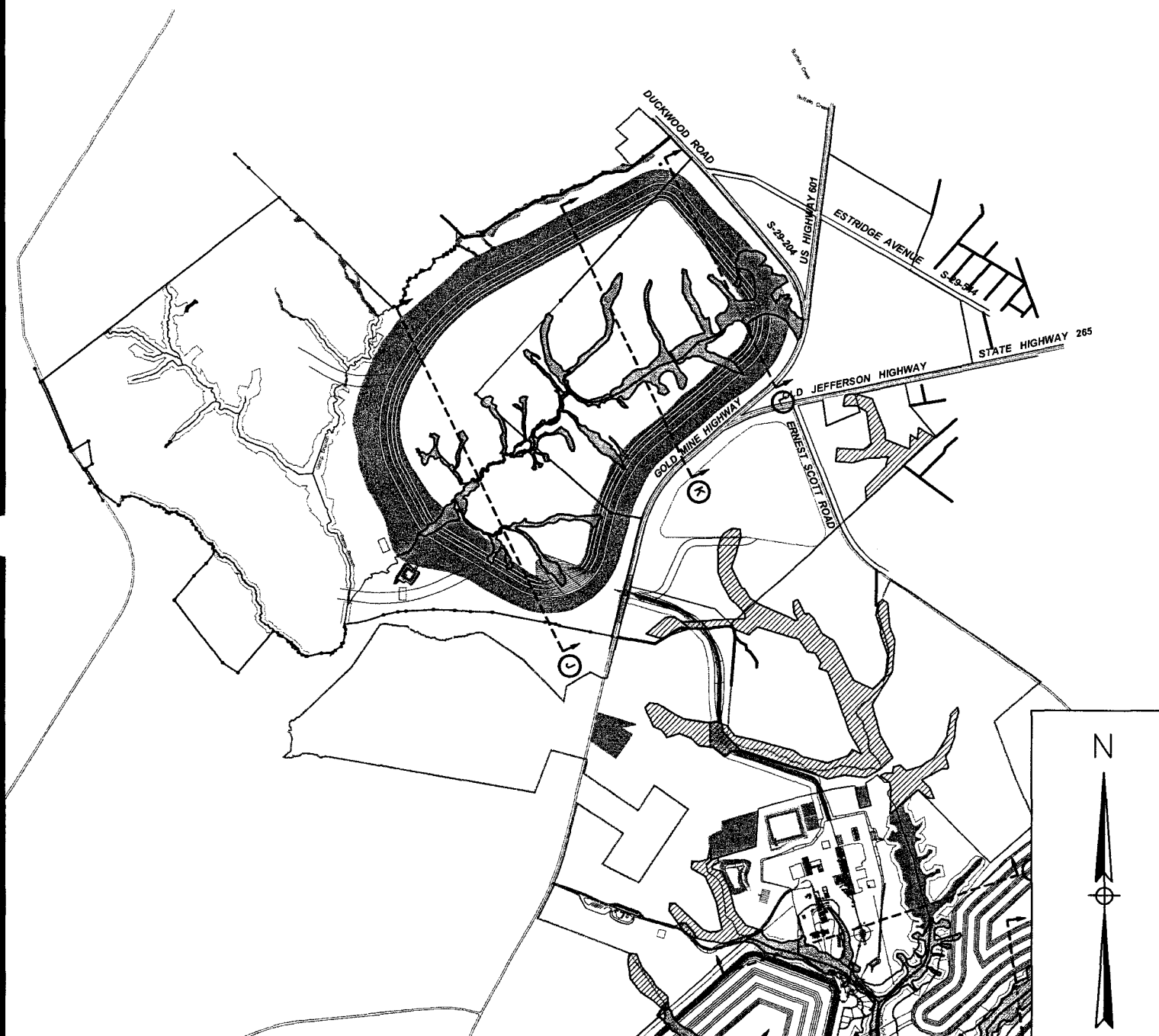
scale in feet
1" = 2000'

Date: 12/03/10

Drawing Title
**OVERALL
SITE LAYOUT-
LOWER PORTION**

Drawing No. 1 of 27

SAC #1992-24122-4
Haile Gold Mine
Sheet 2 of 58
Dated 21 Jan 2011



OVERALL SITE LAYOUT

HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

2000 0 2000 4000 6000

Date: 12/03/10

Drawing Title
**OVERALL
SITE LAYOUT-
UPPER PORTION**

SAC #1992-24122-4

Haile Gold Mine

Sheet 3 of 58

Dated 21 Jan 2011

scale in feet
1" = 2000'

Drawing No.
2 of 27

<u>Area</u>	<u>Acres Wetland Impacts</u>						
<u>Upper Section</u>		<u>Lower Section</u>		<u>Duckwood</u>		<u>Determined Area</u>	
Area L1	14.52	Area 1	0.51	Area D1	49.93	Area DT1	0.89
Area L2	15.48	Area 2	0.40	Area D2	1.92	Area DT3	3.27
Area L4	19.83	Area 9	0.07	Area D6	0.20		
Area L4 -1	0.08	<u>Area X1</u>	<u>0.21</u>	<u>Area D8a</u>	<u>0.11</u>		
Area L4 -2	0.67						
Area L5	6.25						
Area L6	9.46						
Area U1	0.07						
Area U2	1.14						
Area U3	11.56						
Area U4	9.07						
Area U5	1.66						
Area U5a	0.19						
Area U6	3.18						
Area U7	1.49						
Area U8	0.63						
Area U9	1.34						
Area U10	2.86						
Area U10a	0.60						
Area U11a	2.77						
Area U12	0.83						
Area U13	0.95						
Area U16	0.74						
Sum	105.39	Sum	1.19	Sum	51.05	Sum	4.16
Total Impacted		161.79	ac				
Total Wetlands		300.51	ac				

<u>Area</u>	<u>LF Stream Impacts</u>				
<u>Upper Section</u>		<u>Upper Ledbetter</u>		<u>Duckwood</u>	
HCM Creek - Reach 4	2,095	HCM - Tributary 3-1 R1	1,028	CBT-1-R1	802
HCM Creek - Reach 5	1,090	HCM - Tributary 3-1 R2	1,012	CBT-1-R2	1,617
HCM Creek - Reach 6	51	HCM - Tributary 3 - R1	3,738	CBT-1-R3	1,198
HCM Creek - Reach 7	923	HCM - Tributary 3 - R2	246	CBT-1-R4	1,017
HCM - Tributary 2 - Reach 1	1,073	HCM - Tributary 3 - R3	1,314	CBT-1-R8	470
HCM - Tributary 2 - Reach 3	341	HCM - R1	1,462	CBT-1-1-R1	916
HCM - Tributary 2 - Reach 4	1,172	HCM - R2	672	CBT-3-R4	209
HCM - Tributary 2 - Reach 5	197	HCM - R3	565	CB-R8	210
HCM - Tributary 2-1 Reach 1	933	HCM - Tributary 4 - R1	1,427	<u>CB-T4</u>	<u>100</u>
HCM - Tributary 2-2 Reach 1	1,425	<u>HCM - Tributary 4 - R2</u>	<u>602</u>		
HCM - Tributary 1a	810				
LL - T1 Reach 1	1,762				
LL - T2 Reach 2	1,887				
LL - T2 Reach 3	1,163				
LL - T2-1 Reach1	361				
LL - T3 Reach 2	1,149				
LL - T3 Reach 3	1,329				
<u>HCM - Tributary 2-3 Reach 1</u>	<u>1,944</u>				
Total	19,705		12,066		6,539
Total Impacted	36,624	LF			
Total Streams	71,727	LF			

Date: 12/03/10

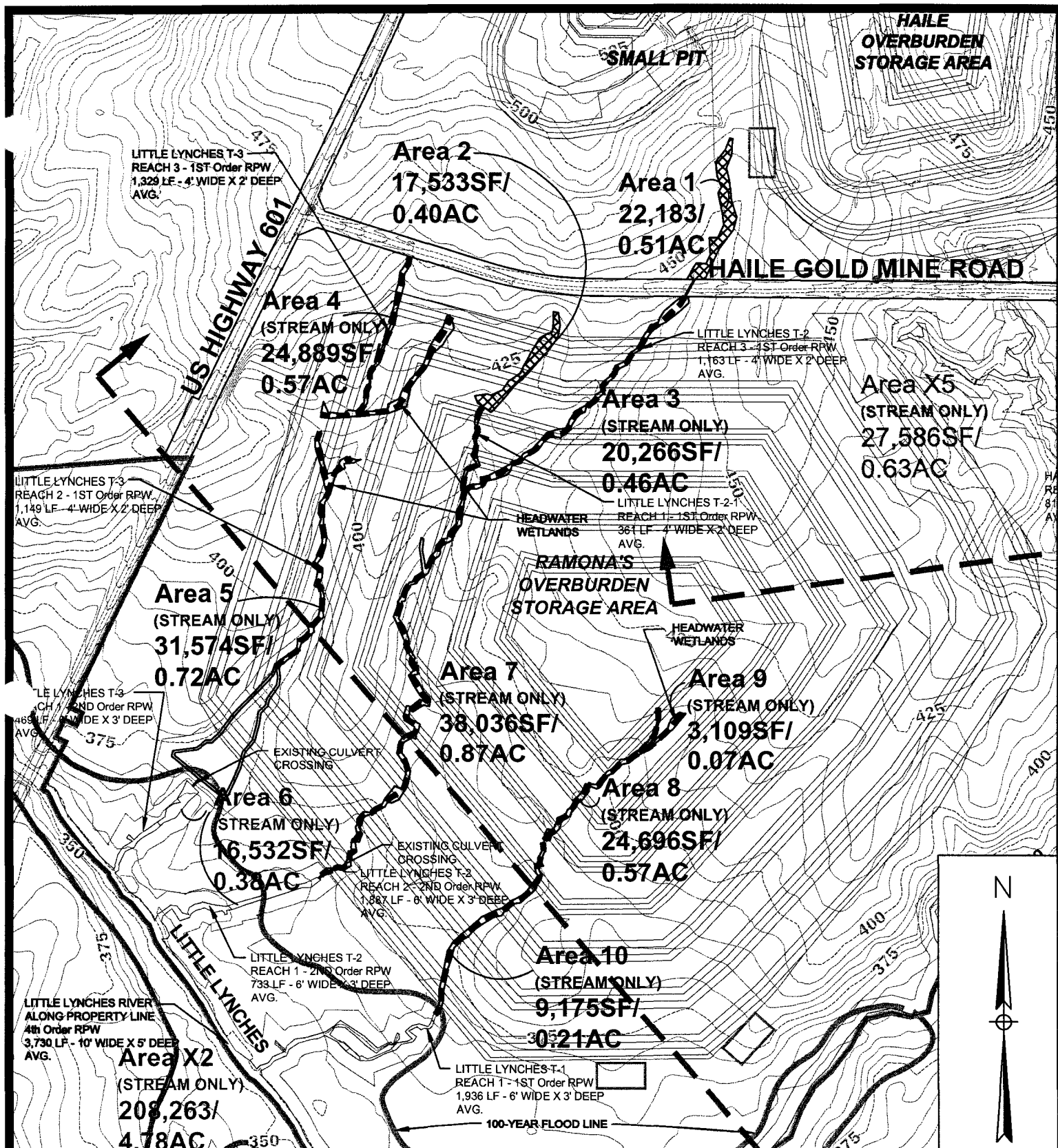
HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title
**WETLAND &
STREAM IMPACT
AREAS**

Drawing No.
3 of 27

SAC #1992-24122-4
Haile Gold Mine
Sheet 4 of 58
Dated 21 Jan 2011



Areas Impacted

See sheet 3 for quantities of impacts

1,2,3,4,5,7,8,9,10

Streams Impacted

LLT1, LLT2, LLT3

Date: **12/03/10**

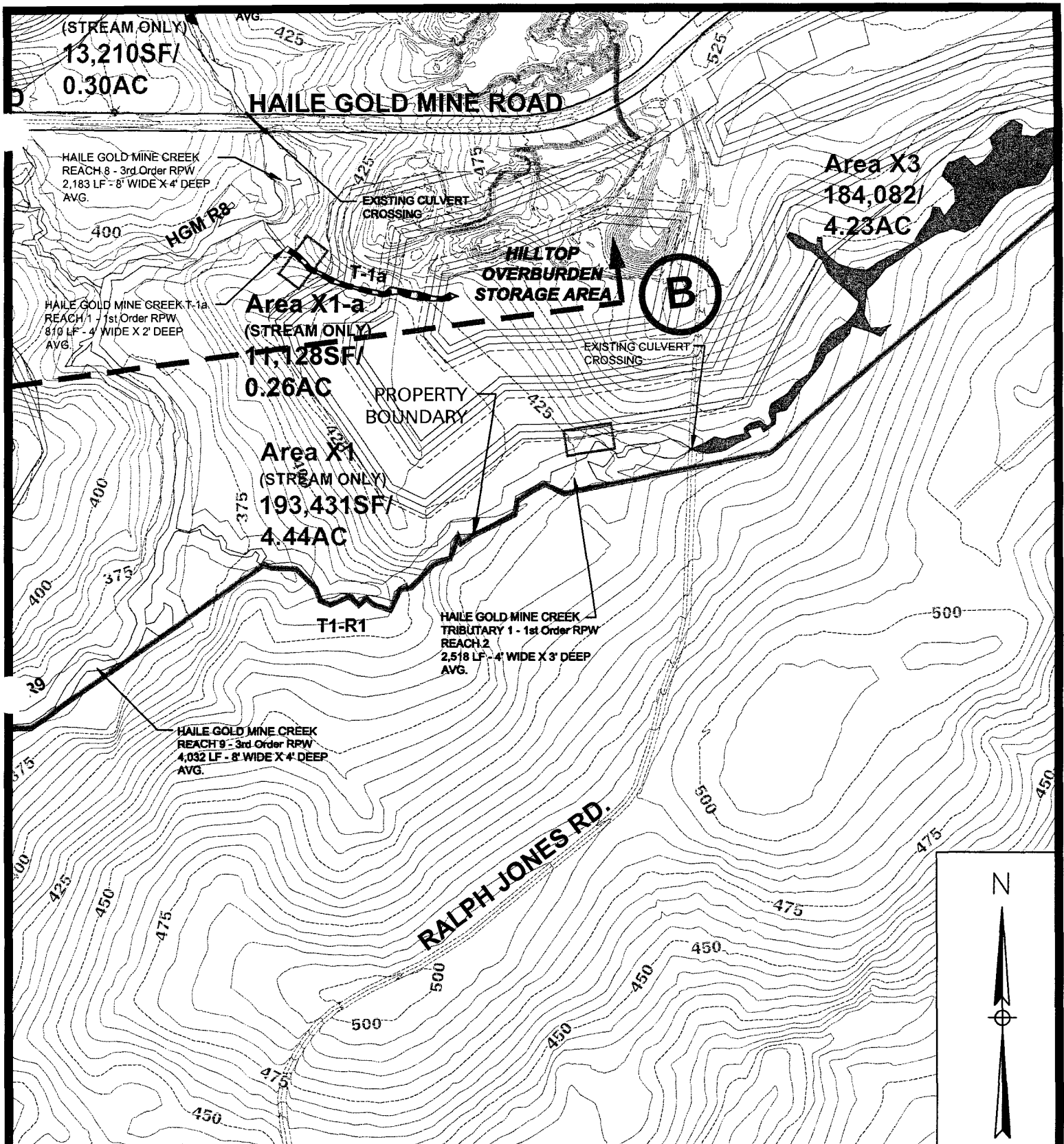
Drawing Title
**WETLAND &
STREAM IMPACT
PLAN**

Drawing No. **4 of 27**

HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

SAC #1992-24122-4
Haile Gold Mine
Sheet 5 of 58
Dated 21 Jan 2011



Areas Impacted

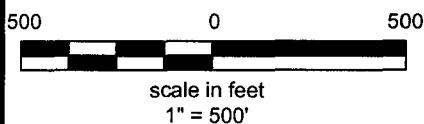
See sheet 3 for quantities of impacts

X1a

Streams Impacted

T-1a

Date: 12/03/10



LEGEND

- IMPACTED WETLAND
- UNIMPACTED WETLAND
- DETERMINED AREA
- IMPACTED STREAM
- FLOODED WETLAND

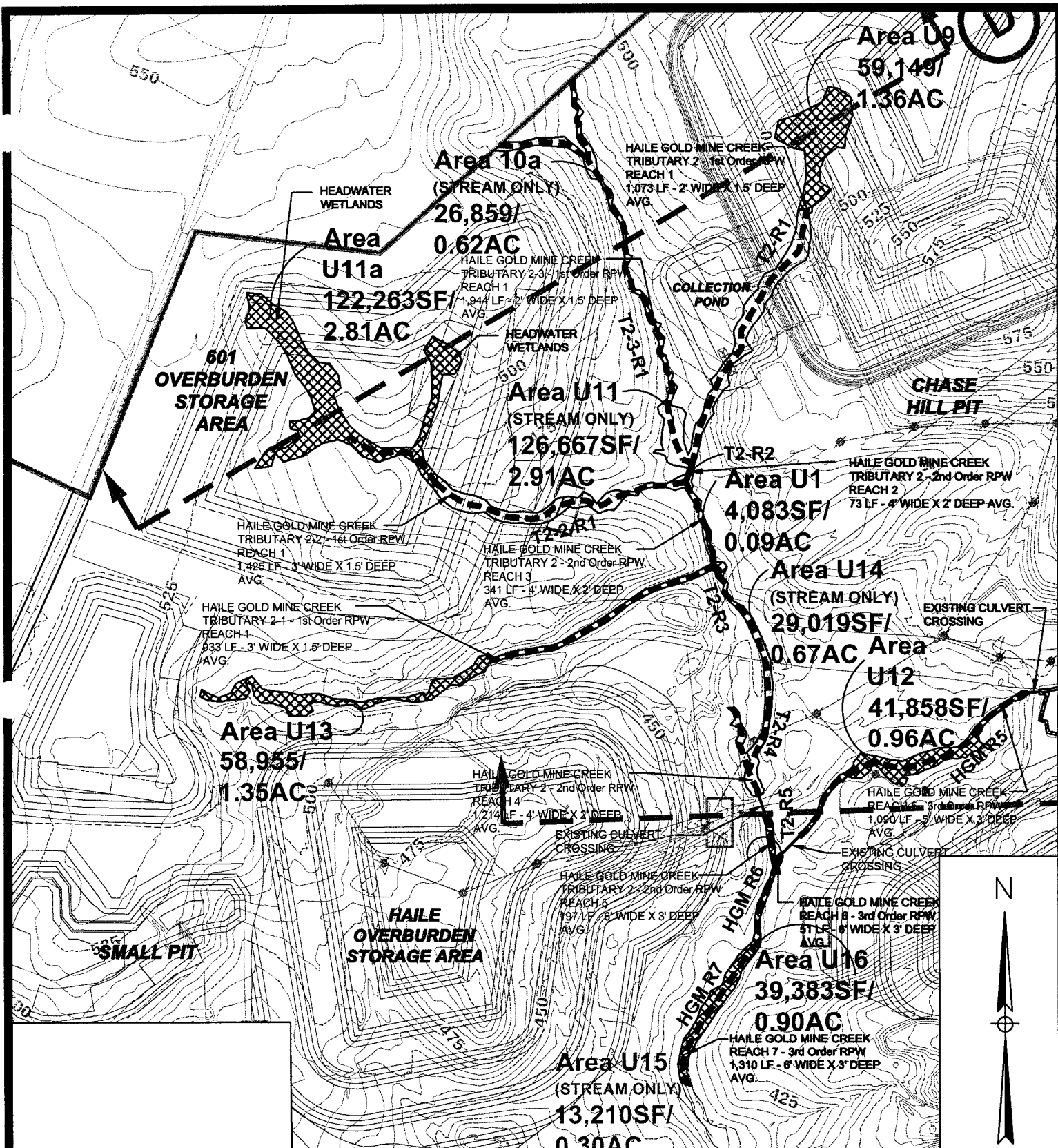
HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

WETLAND & STREAM IMPACT PLAN

Drawing No. 5 of 27

SAC #1992-24122-4
Haile Gold Mine
Sheet 6 of 58
Dated 21 Jan 2011



Areas Impacted

See sheet 3 for quantities of impacts

U1, U9, 10a, U11, U11a, U12, U13, U14, U16

Date: 12/03/10

Streams Impacted

HGM R5, HGM R6, HGM R7,
T2-R1, T2-R2, T2-R3, T2-R4, T2-R5, T2-2-R1, T2-3-R1

500 0 500



scale in feet
1" = 500'

LEGEND

- IMPACTED WETLAND
- UNIMPACTED WETLAND
- DETERMINED AREA
- IMPACTED STREAM
- FLOODED WETLAND

HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title

**WETLAND &
STREAM IMPACT
PLAN**

Drawing No.

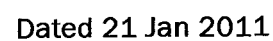
6 of 27

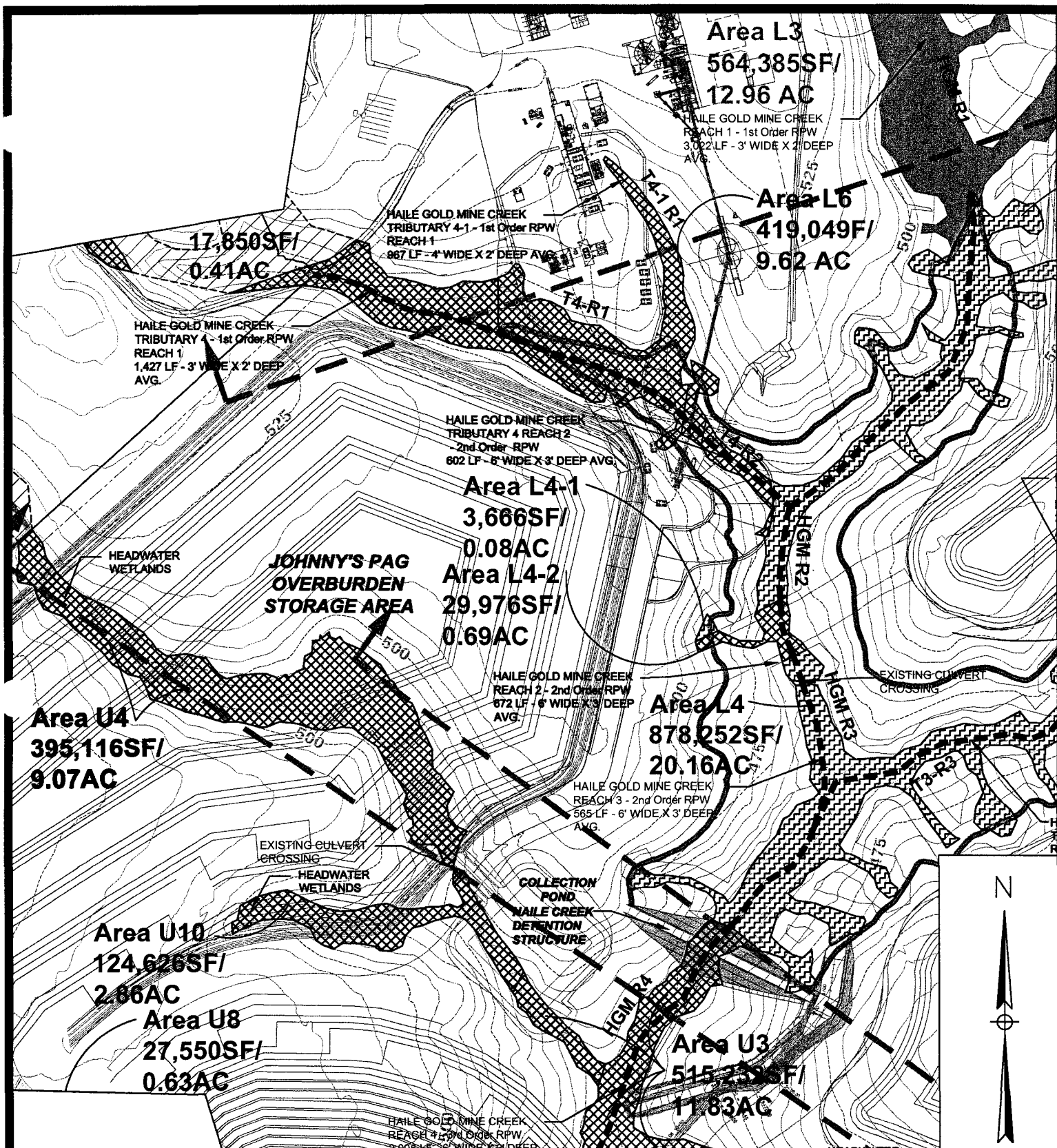
SAC #1992-24122-4

Haile Gold Mine

Sheet 7 of 58

Dated 21 Jan 2011





Areas Impacted

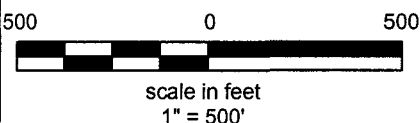
L4, L4-1, L4-2, L6, U4, U10

See sheet 3 for quantities of impacts

Date: 12/03/10

Streams Impacted

HGM R1, HGM R2, HGM R3, HGM R4
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LEGEND

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	UNIMPACTED WETLAND		FLOODED WETLAND
	DETERMINED AREA		

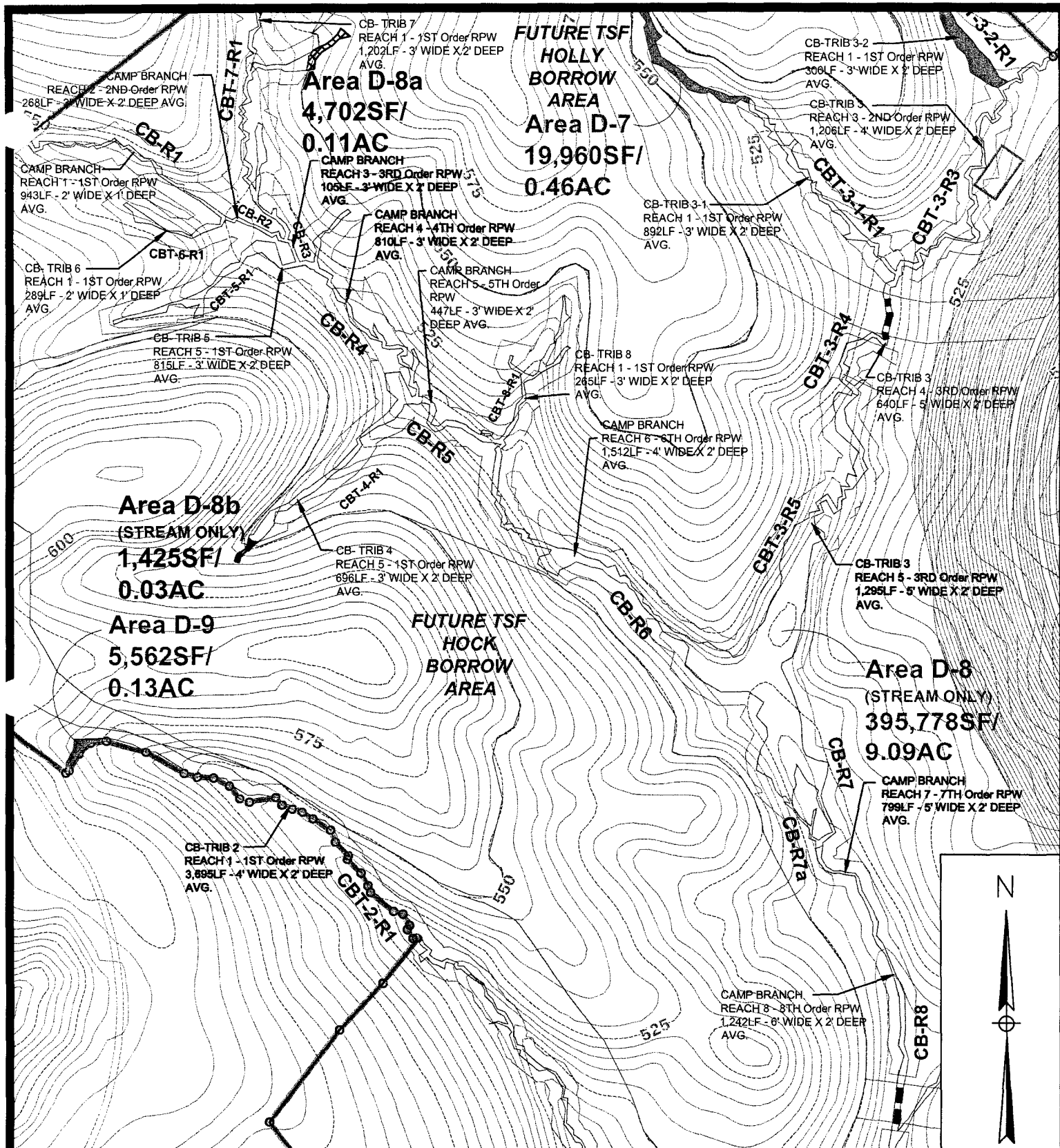
HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title
**WETLAND &
STREAM IMPACT
PLAN**

Drawing No. 9 of 27

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Haile Gold Mine
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Areas Impacted

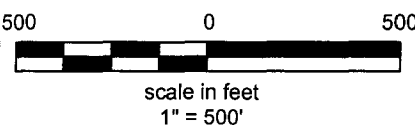
D-8a, D-8b

See sheet 3 for quantities of impacts

Streams Impacted

CB-R8, CBT-3-R4, CBT-4-R5

Date: 12/03/10



LEGEND

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	UNIMPACTED WETLAND		FLOODED WETLAND
	DETERMINED AREA		

HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

WETLAND & STREAM IMPACT PLAN

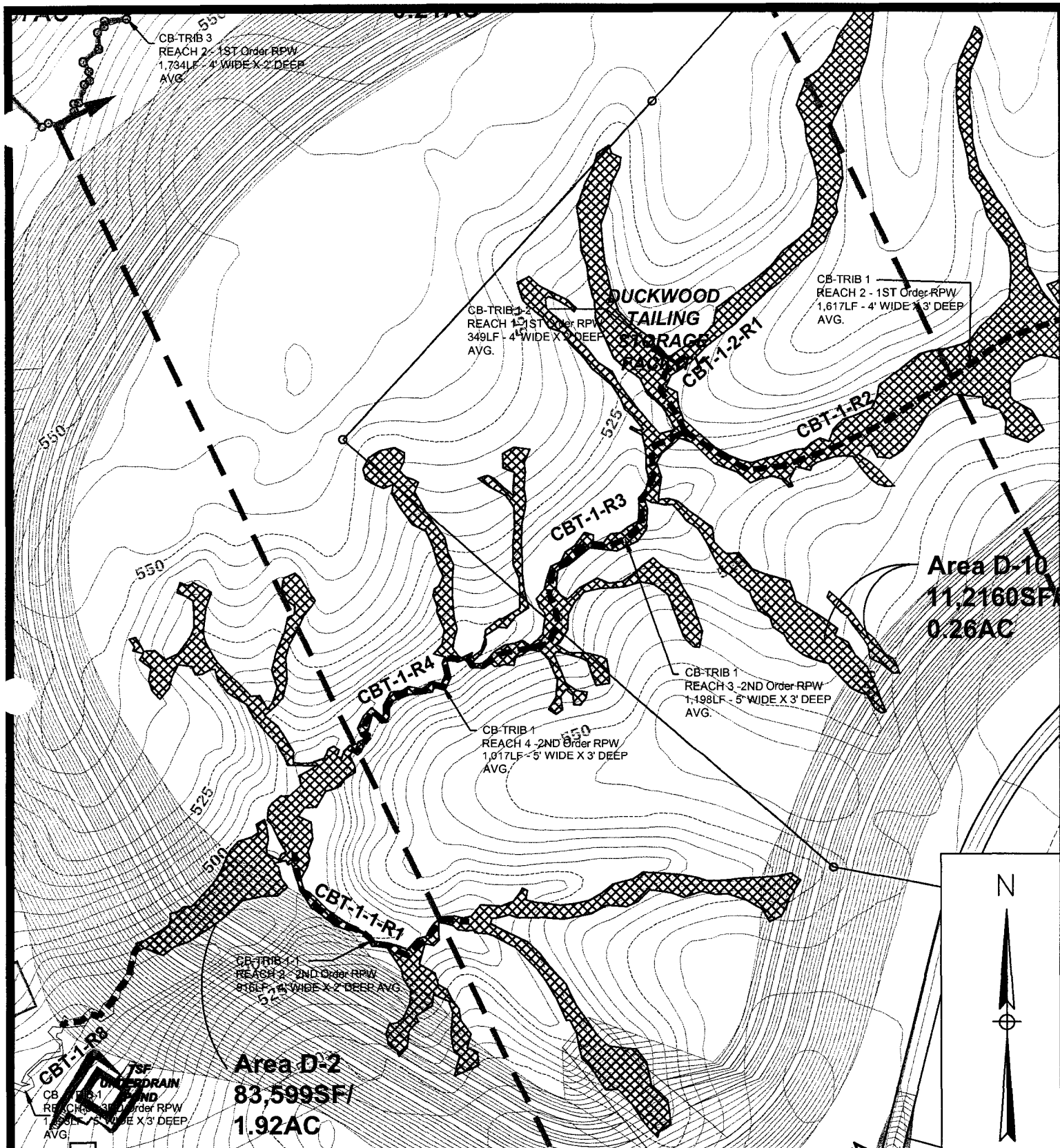
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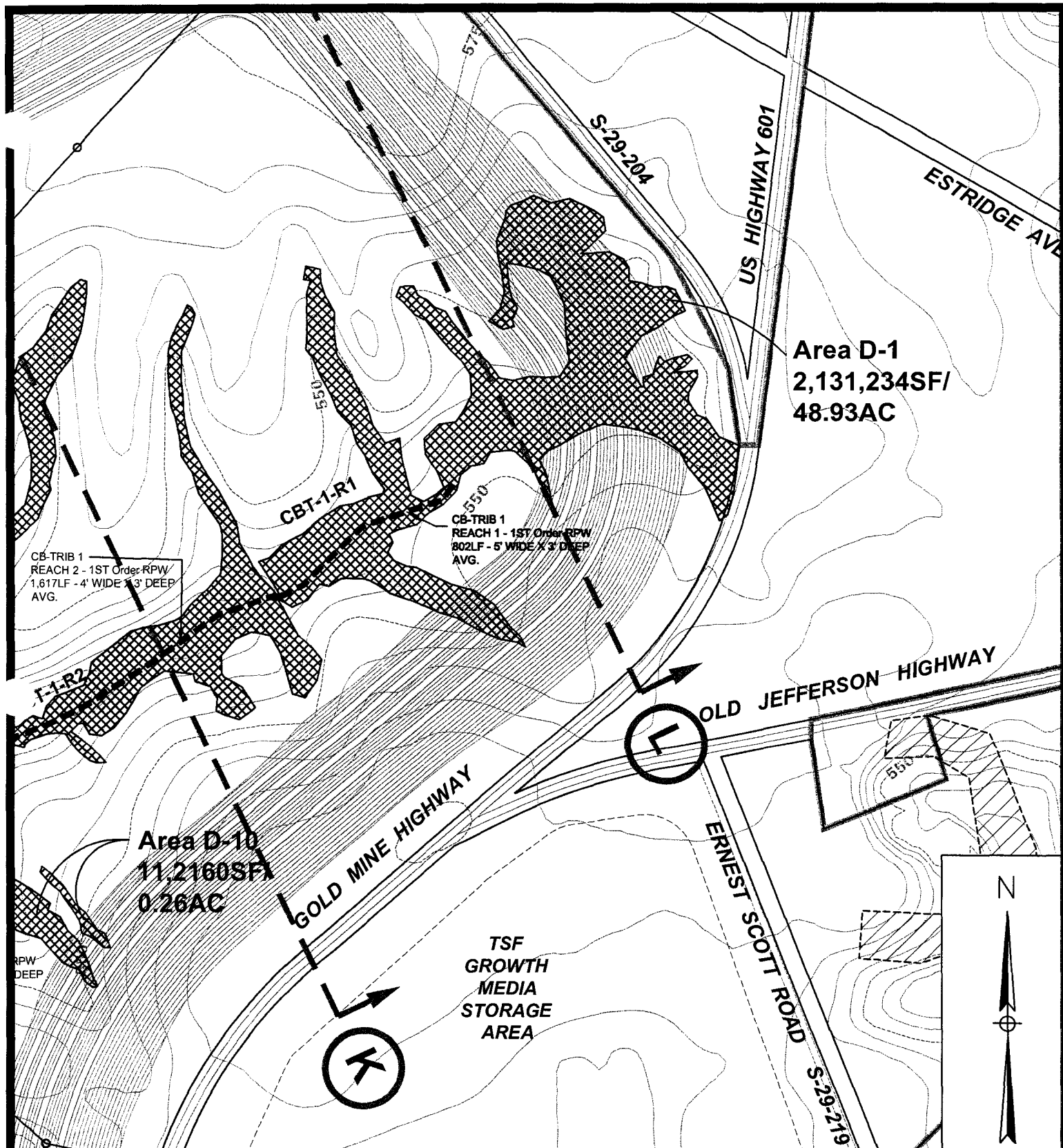
SAC #1992-24122-4

Haile Gold Mine

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Areas Impacted

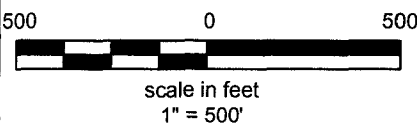
See sheet 3 for quantities of impacts

D1

Streams Impacted

CBT-1-R1

Date: 12/03/10



LEGEND

- IMPACTED WETLAND
- UNIMPACTED WETLAND
- DETERMINED AREA
- IMPACTED STREAM
- FLOODED WETLAND

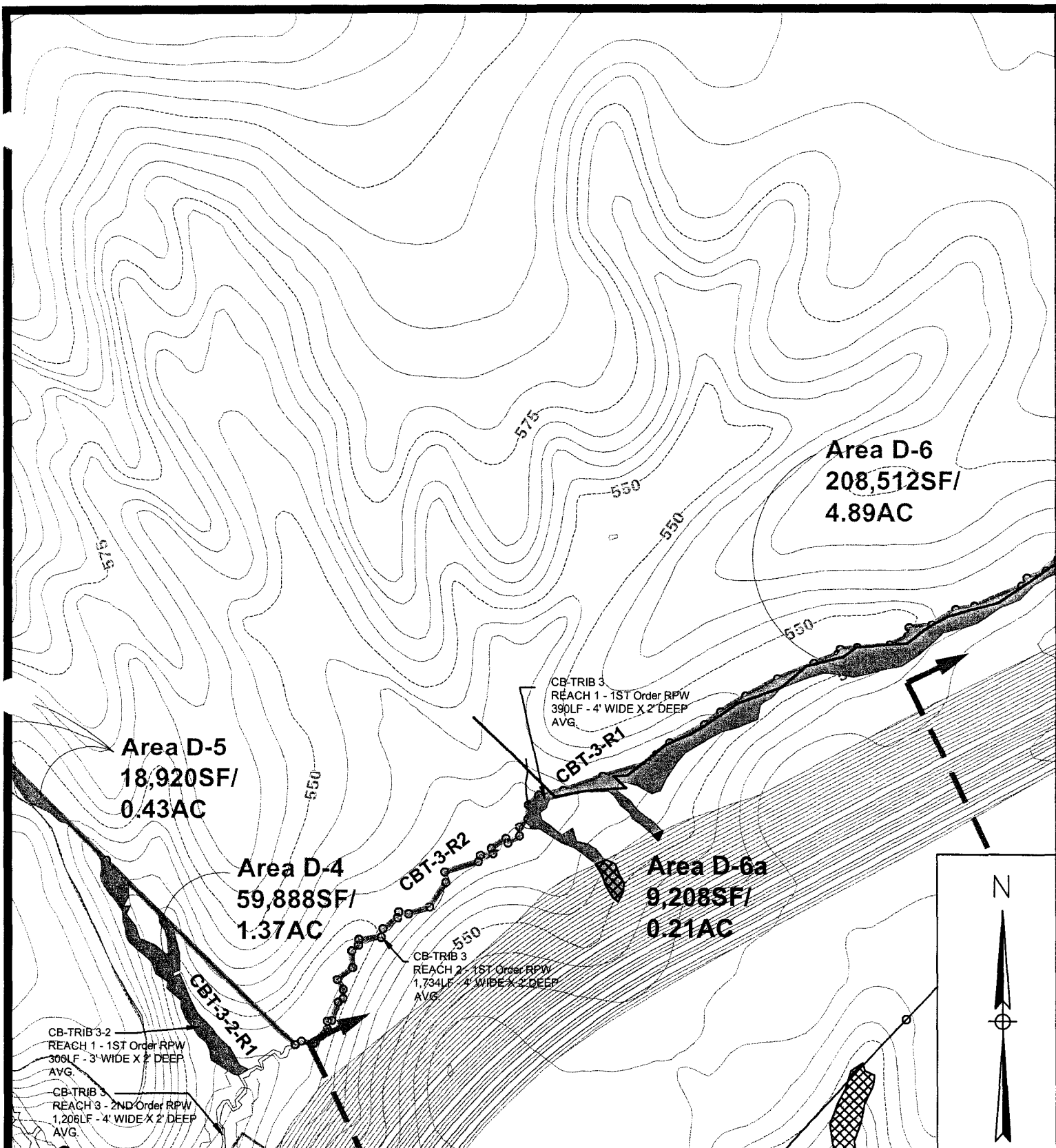
HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

WETLAND & STREAM IMPACT PLAN

Drawing No. 14 of 27

SAC #1992-24122-4
Haile Gold Mine
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Areas Impacted

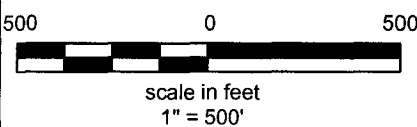
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D-6a

Streams Impacted

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Date: 12/03/10



LEGEND



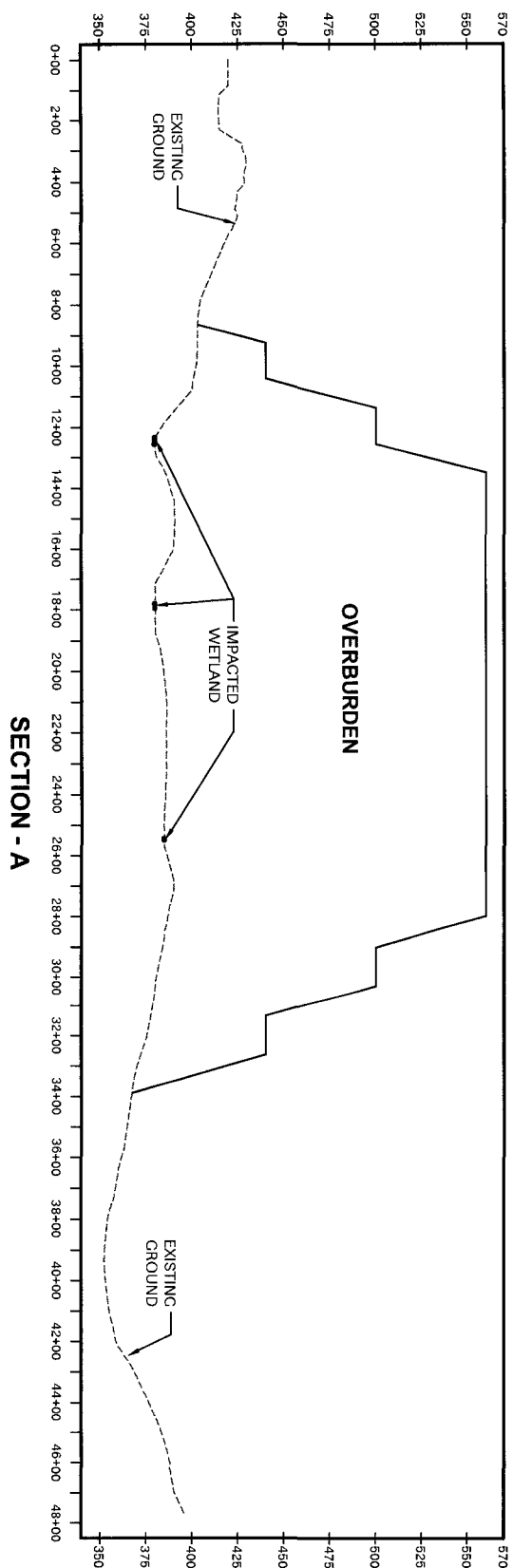
HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

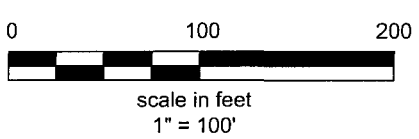
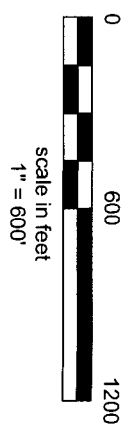
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**WETLAND &
STREAM IMPACT
PLAN**

Drawing No. 15 of 27

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Haile Gold Mine
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Dated 21 Jan 2011



SECTION - A



HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title
**WETLAND
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 SECTION - A**

Drawing No.
16 of 27

SAC #1992-24122-4
 Haile Gold Mine
 Sheet 17 of 58
 Dated 21 Jan 2011

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HAILE GOLD MINE

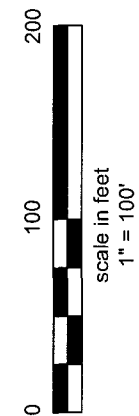
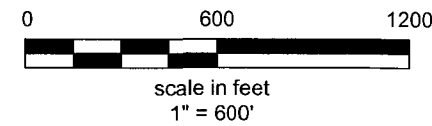
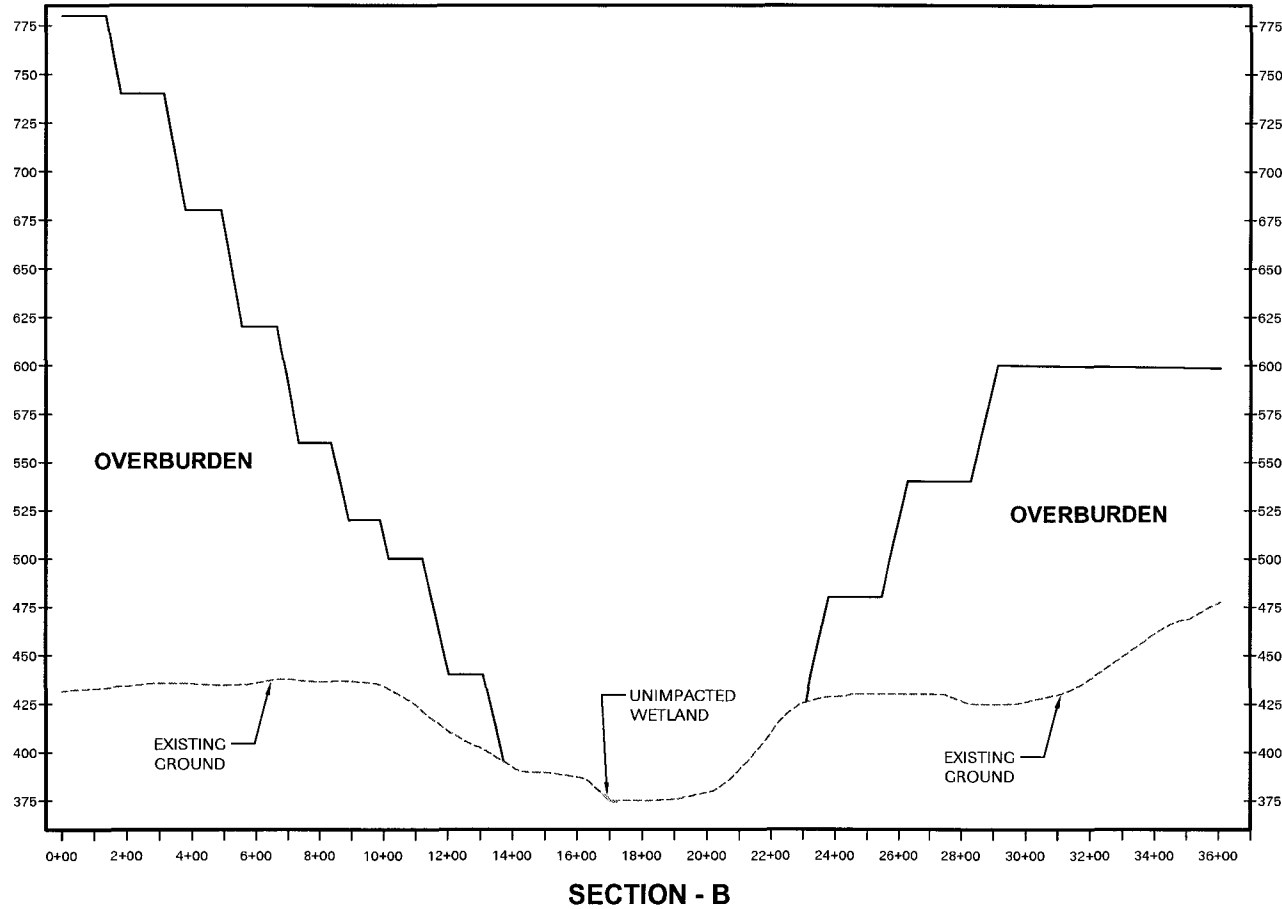
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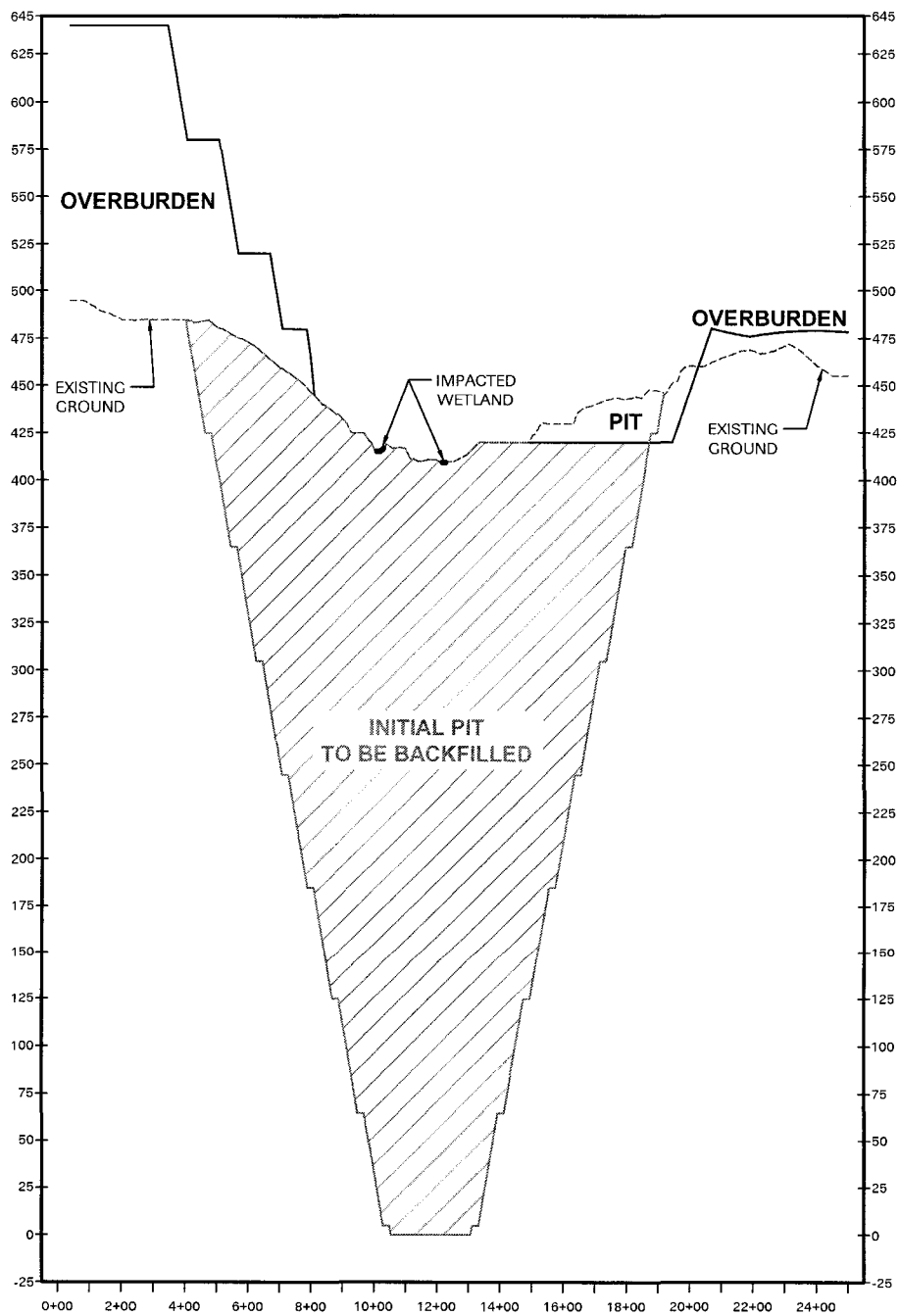
SAC #1992-24122-4
Haile Gold Mine
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Dated 21 Jan 2011

WETLAND
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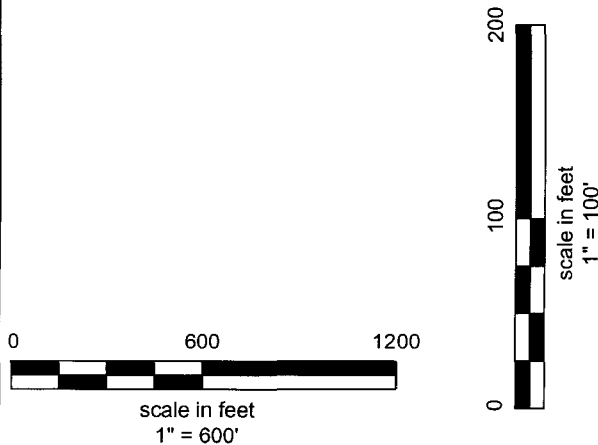
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Date: 12/03/10





SECTION - C



HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title

**WETLAND
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SECTION - C**

Drawing No.

18 of 27

Date:

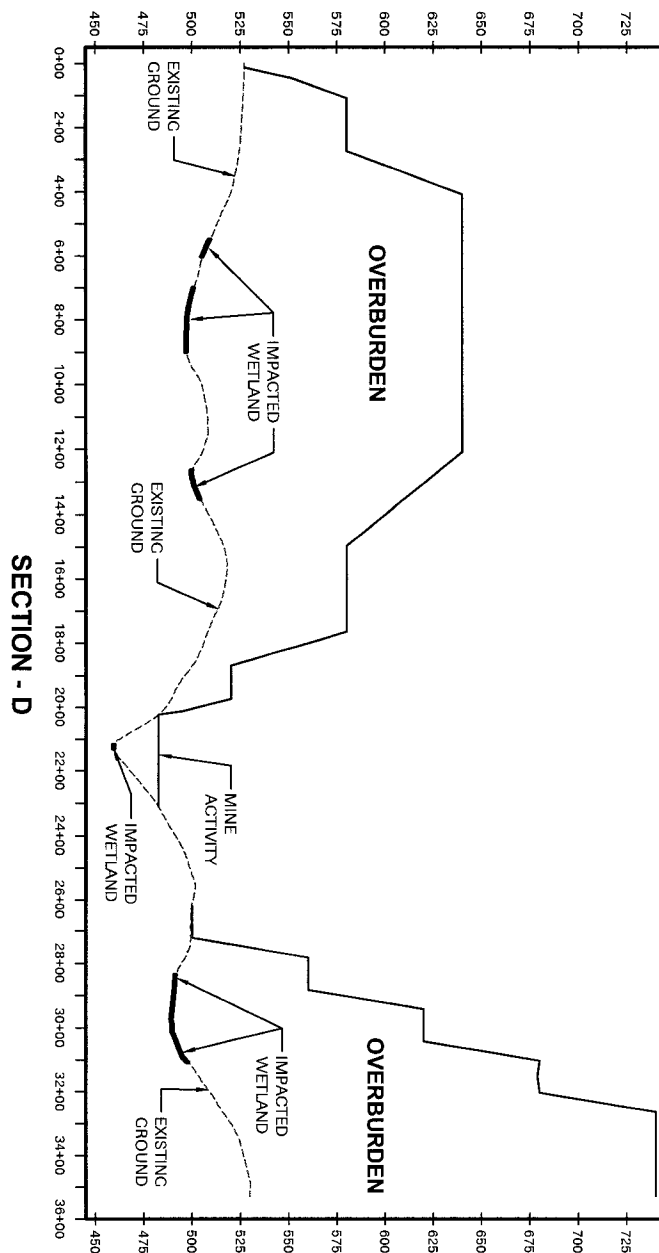
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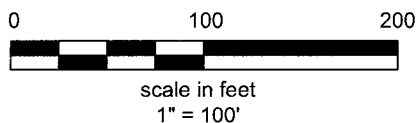
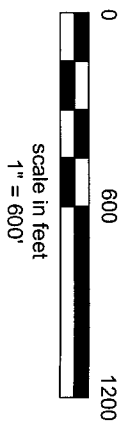
Haile Gold Mine

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Dated 21 Jan 2011



SECTION - D



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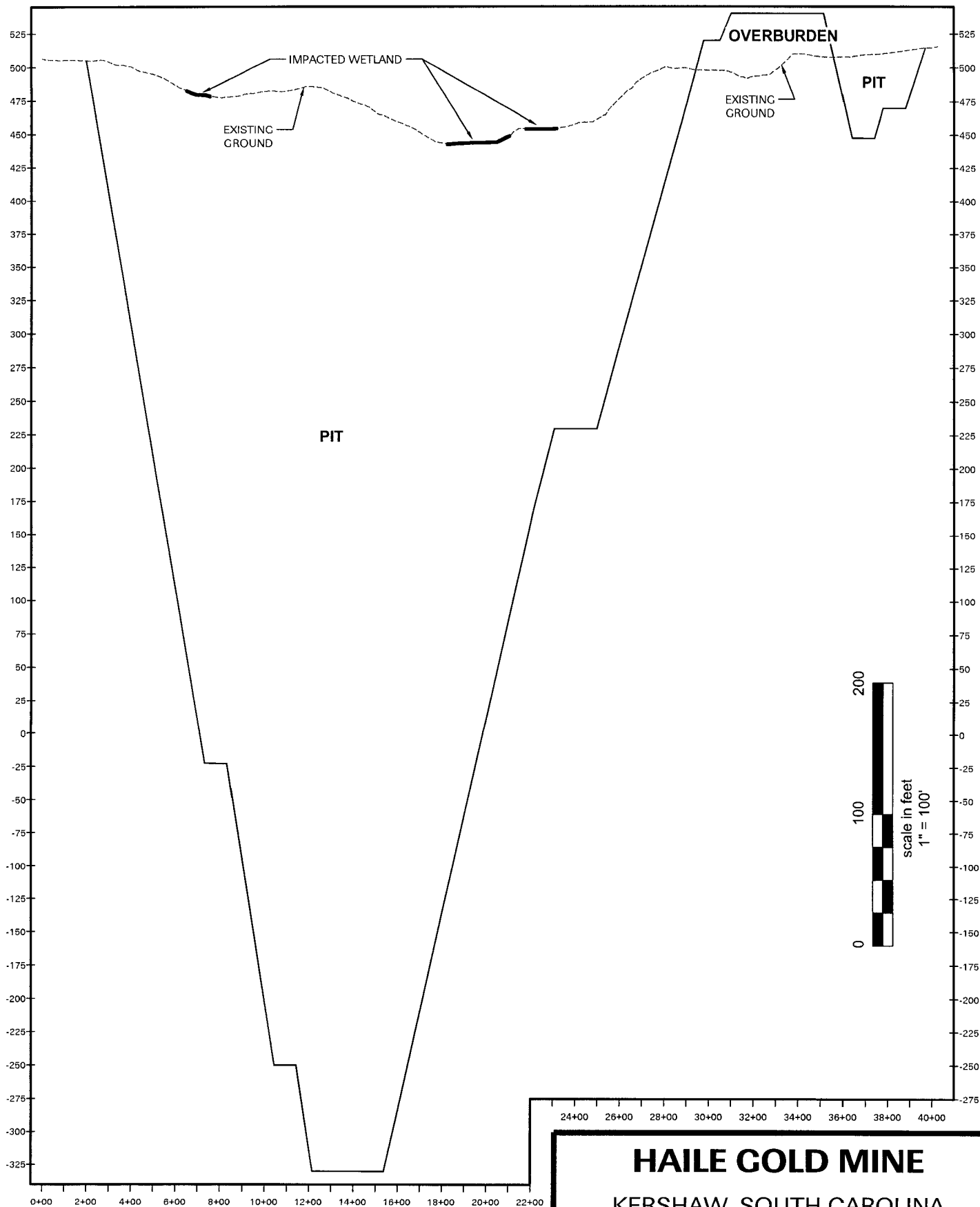
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SECTION - D**

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Haile Gold Mine
Sheet 20 of 58
Dated 21 Jan 2011



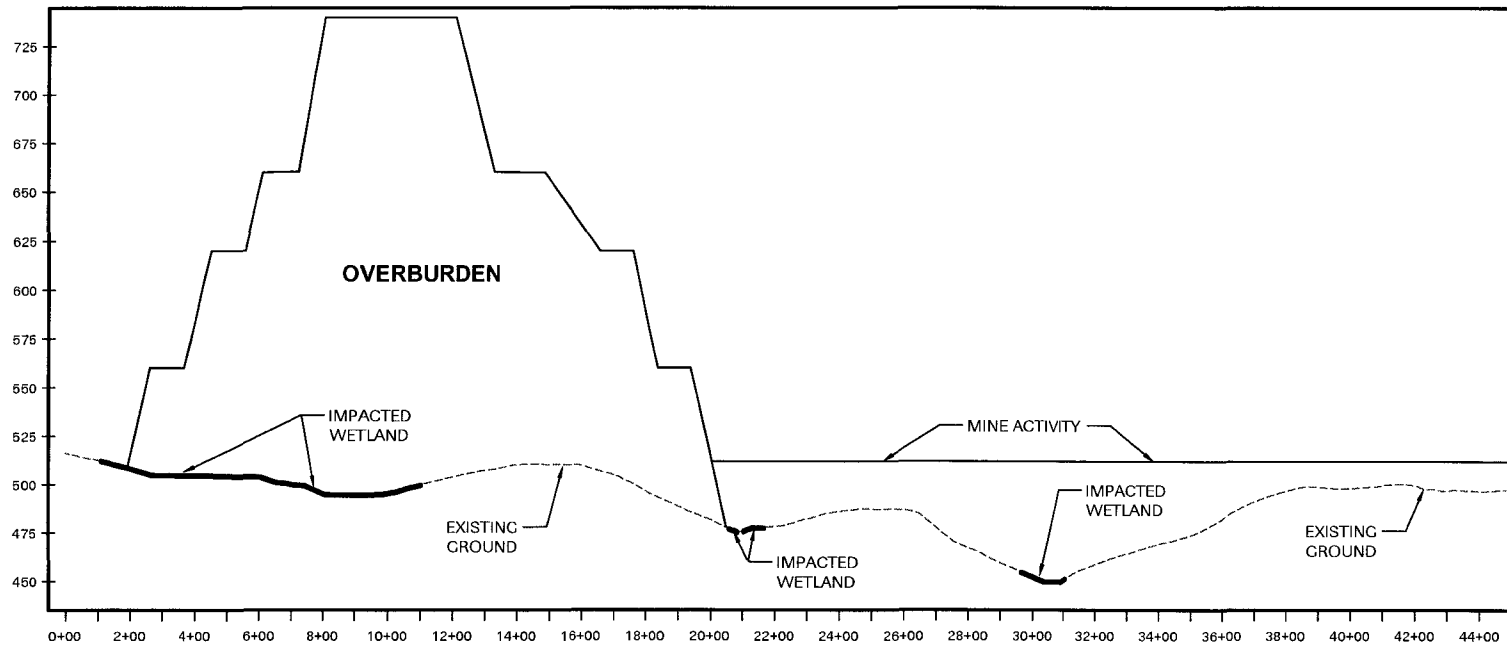
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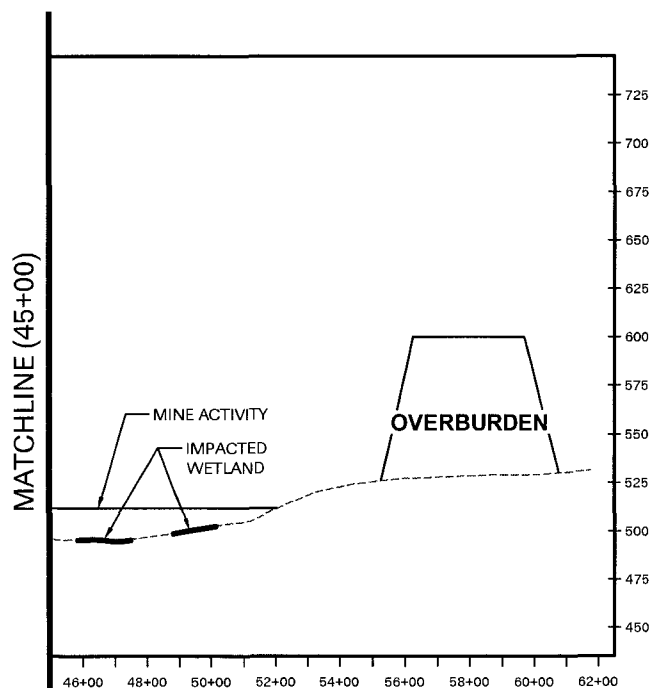
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Haile Gold Mine
Sheet 21 of 58
Dated 21 Jan 2011

Date: **12/03/10**

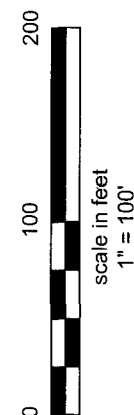
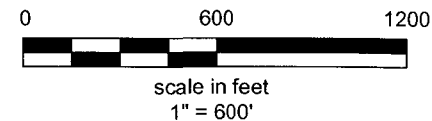
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SECTION - F



SECTION - F



HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

SAC #1992-24122-4

Haile Gold Mine

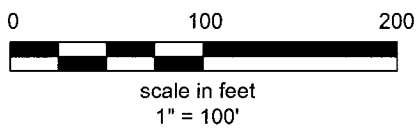
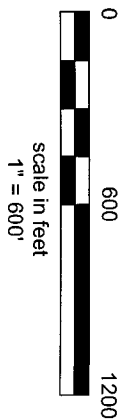
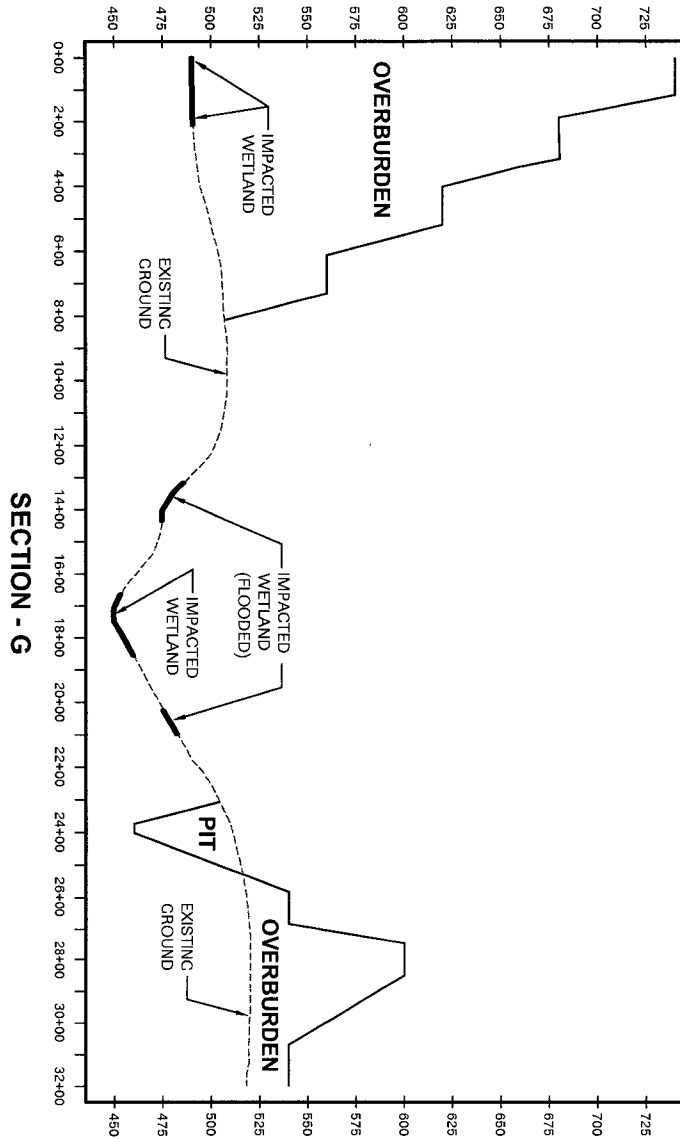
Sheet 22 of 58

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WETLAND
IMPACT
SECTION - F

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HAILE GOLD MINE

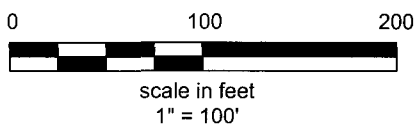
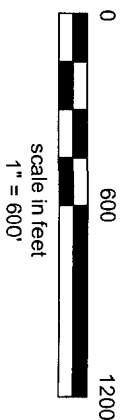
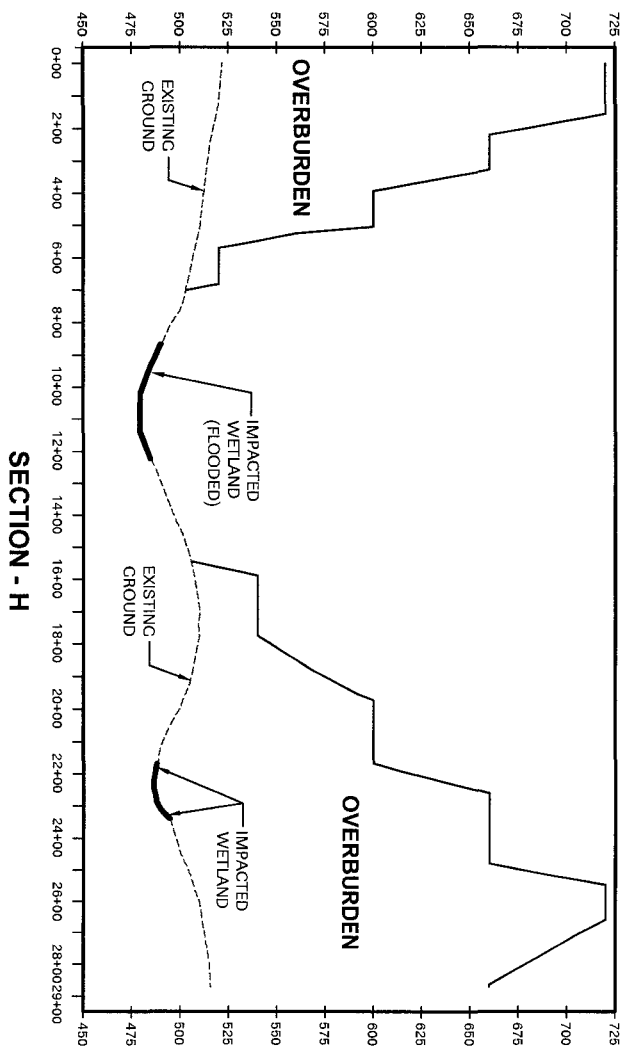
KERSHAW, SOUTH CAROLINA

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**WETLAND
IMPACT
SECTION - G**

Date: **12/03/10**

Drawing No. **22 of 27**

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Haile Gold Mine
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HAILE GOLD MINE

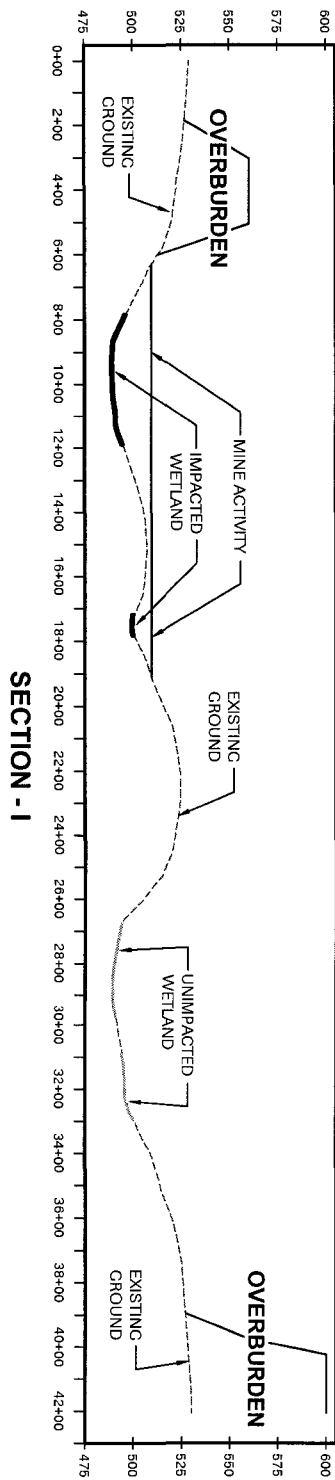
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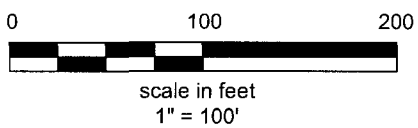
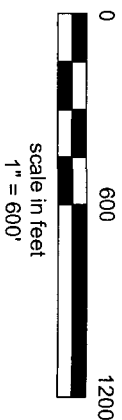
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Drawing No. **23 of 27**

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Haile Gold Mine
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SECTION - I



HAILE GOLD MINE

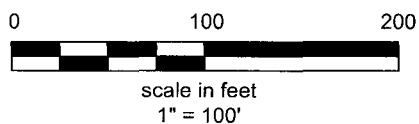
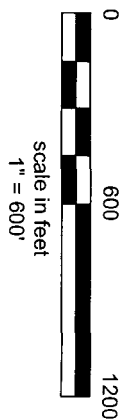
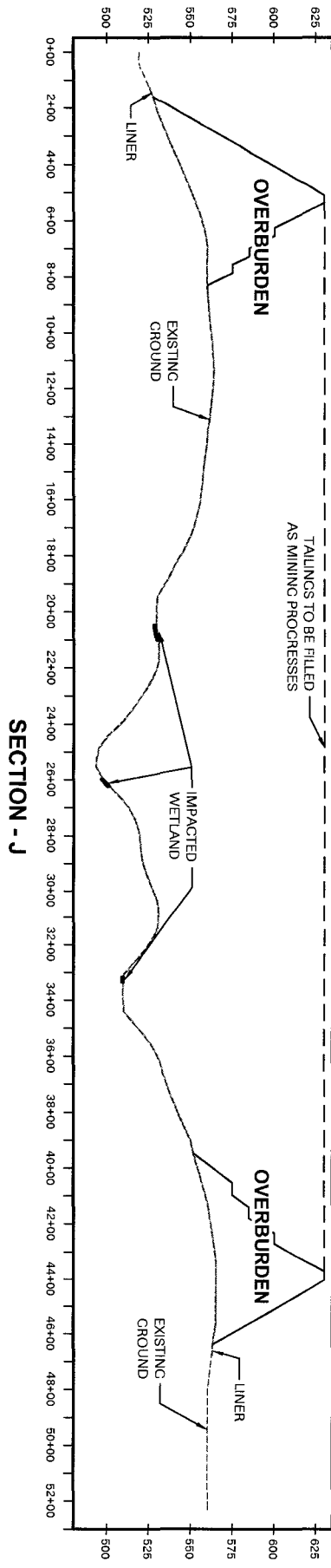
KERSHAW, SOUTH CAROLINA

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**WETLAND
 IMPACT
 SECTION - I**

Date: **12/03/10**

Drawing No. **24 of 27**

SAC #1992-24122-4
 Haile Gold Mine
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HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title

**WETLAND
IMPACT
SECTION - J**

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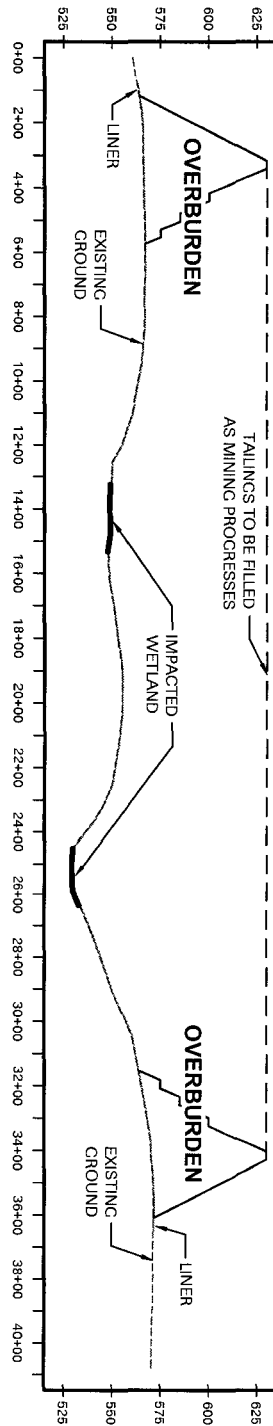
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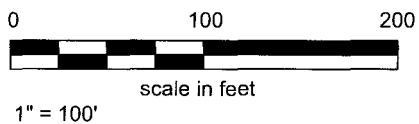
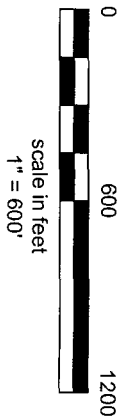
Haile Gold Mine

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SECTION - K



HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title
**WETLAND
IMPACT
SECTION - K**

Date: **12 /03/10**

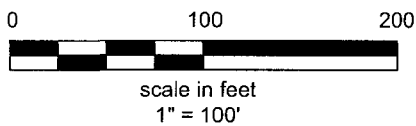
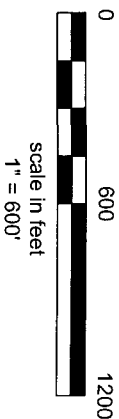
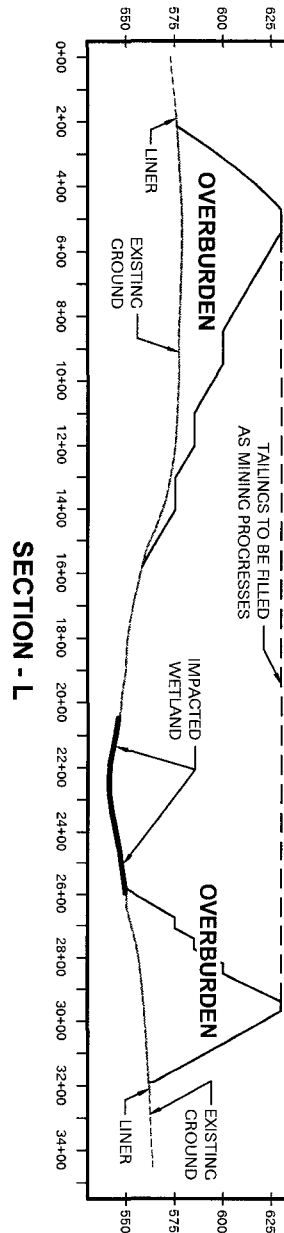
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SAC #1992-24122-4

Haile Gold Mine

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HAILE GOLD MINE

KERSHAW, SOUTH CAROLINA

Drawing Title

**WETLAND
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SECTION - L**

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Haile Gold Mine

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IV. Project Description

A. Mining Method Description

Production at the Haile Gold Mine will consist of the phased mining of multiple open pits at a nominal mill rate of 7,000 tons of ore per day, 365 days per year. The current mine plan comprises eight pits; these are Ledbetter, Snake, Haile, Mill, Red Hill, Chase Hill, Small, and Champion. As exploration continues, it is expected that additional pits will be brought in to the mine plan. Mining will be on a 7 day per week schedule. The average life of mine strip ratio is approximately 6:1, overburden to ore. Mining rates vary by year with initial production being 40,000 tons per day ore plus overburden, and increasing to 79,000 tons per day within a few years. Mining equipment has been selected to provide flexible, efficient operation within the selected pit design parameters. Haul roads are constructed to connect the pit areas, the stockpile areas, and the primary crusher area. Haul roads are designed at minimum 100 foot operating width including safety berms and drainage. The maximum design gradient is 10%.

The mining cycle is divided into specific functions. Each function consists of unique operations and the operators require specific skill sets to complete them. The basic mining functions are drilling, blasting, loading, hauling, and support.

Concurrent reclamation will be performed during the mine life.

Pre-Production

A 12-year mine production plan has been created that will pre-strip approximately 11.7 million tons of overburden prior to production.

Following the initial clearing and grubbing, growth media will be removed from the affected areas and stockpiled until it can be redistributed for concurrent and/or final reclamation of facilities.

Approximately 182,000 tons of ore are mined during pre-production. This material will be placed on a lined facility near the plant site to be fed to the mill as scheduled.

Overburden Production

Approximately 240 million tons of overburden material will be generated and selectively placed based on geochemical characteristics. An overburden management plan has been developed to sample, analyze, characterize, and selectively handle and place non-ore material. Placement of the material will either be on a lined or unlined overburden facility, for use in the construction of the tailing storage facility embankment, concurrent reclamation of facilities, or returned to one of the mined pits for backfill.

Ore Production

Mining generally occurs from two pits, one in pre-stripping, and one in production. Since the mine area is overlain by coastal plain sand and saprolite, this material can be excavated without drilling and blasting. It will be loaded directly into haul trucks and transported to growth media stockpiles, overburden stockpile facilities, or used in construction of the tailings storage facility embankment.

Drilling in rock zones will be conducted using rotary blasthole drills capable of drilling 6 inch diameter holes to a depth of 23 feet. The mining bench height is 20 feet and an additional 3 feet of subdrill is required to ensure a smooth pit floor is achieved. Drill holes will be completed on a blast pattern of approximately 14 feet by 14 feet. A sample of the detritus, or cuttings, will be taken for each blasthole drilled. The samples will be delivered to an on-site laboratory for analysis. Individual blasts will consist of between 50 holes and 200 holes. Once an individual blast pattern has been completed, the pattern will be blasted to loosen the rock for subsequent excavation. The blastholes will be loaded with blasting agents, primed with cast boosters for initiation, and tied in with electronic programmable delays (EDET's). The delays are used in order to time the blast propagation for optimizing rock fragmentation and minimize low-frequency vibrations to protect the pit slopes from damage. The EDET's provide an added measure of safety in that each detonator is checked for continuity and proper operation prior to initiating the blast. In all blasting operations the maximum peak particle velocity will not exceed regulatory limits at the immediate location of any dwelling, public building, school, church, or commercial or institutional building.

Loading equipment will consist of hydraulic front shovels and wheel loaders. The loading equipment will have bucket capacities of about 15 cubic yards. The loading equipment will excavate material from the pits and load it into mining trucks for transport to various destinations. The front shovel is selected for working in poor underfoot conditions that may impede the ability of a wheel loader to work efficiently. Wheel loaders are selected as they are highly mobile and can quickly tram from one working area to another. Wheel loaders will work in the pit excavating material and in stockpiles for rehandling.

Haulage equipment will be comprised of 100-ton capacity off road mining trucks. Material loaded from the pits will be transported to the mill, to overburden facilities, or to growth media stockpiles in mining trucks. Articulated mining trucks may be used from time to time where conditions warrant, such as in poor underfoot conditions. These trucks are smaller having a capacity of 40 tons.

Support operations are required to maintain pits, overburden facilities, haulroads, stockpiles, and to perform construction as well as concurrent reclamation. The equipment used for support operations consists of a secondary rock drill, small loaders, small mining trucks, track-type tractors equipped with bulldozer and ripper, wheel dozers, motor graders, water trucks, and hydraulic backhoe excavators.

The initial mine mobile equipment list appears below. Additions and replacements to this list over the life of the mine include an additional blasthole drill, wheel loader, haul trucks as haul distances increase, motor grader, and water truck.

Mine Major Equipment	
Type	No.
Blasthole drill 6 1/2"	3
Front shovel 14.4 cu yd	1
Wheel loader 15 cu yd	1
Haultruck 100 ton	11
Trackhoe 2 cu yd	1
Motor grader 14' moldboard	2
Crawler dozer 410hp	2
Crawler dozer 580hp	1
Rubber tire dozer	1
Water truck 13,000 gal	1

Figure IV-1. Major Mine Equipment

Other mobile equipment will be necessary for maintenance operations and other functions. There will be a need for service trucks, mechanics trucks, forklifts, fuel trucks, lowboy truck, tire manipulator, and blasting agent transport/mix trucks.

Mining Sequence and Pit Schedule

Each pit area will be cleared, grubbed, and the soil removed and stored in growth media stockpiles prior to mining activity.

Mining commences during pre-production in the Mill Pit. The pre-production period is about one year and overburden material is removed from Mill Pit to expose ore.

Once the mill facility is operational in year 1, ore is supplied from the Mill Pit. The Snake Pit is comprised of two phases. Overburden stripping starts in Phase 1 of the Snake Pit. Phase 1 is smaller and reaches ore sooner, while deferring overburden for the second phase. Phase 2 mines the pit back to final limits.

Year 2 sees ore supplied by Mill Pit and Snake Phase 1. Snake Phase 2 Pit stripping commences.

Year 3 sees Mill Pit completed (approximately 400 feet deep) and backfilling starts. Haile Pit starts. Snake Phase 1 is completed and Phase 2 continues. Ore is supplied from the Snake Pit.

Year 4 Snake Pit provides ore. Haile Pit continues. Red Hill Pit is started as is Ledbetter Phase 1 Pit.

Year 5 Snake Pit completed (approximately 600 feet deep) and backfilling starts. Haile Pit continues. Red Hill Pit continues. Ledbetter Phase 1 continues.

The remaining years, through the end of the mine life, see the Haile and Red Hill Pits completed (approximately 380 feet deep and 240 feet deep, respectively) and backfilled. Mining continues in Ledbetter Phase 2 and this pit is completed in year 10 (approximately 840 feet deep).

Year 7 sees ore supplied from the Chase Hill Pit (approximately 240 feet deep) and in Year 10 ore is from the Small (approximately 110 feet deep) and Champion (approximately 240 feet deep) Pits.

The final year of operation sees the ore stockpile reclaimed and fed to the mill.

B. Mill Process Description

The Haile Gold Mine process facility incorporates both physical and chemical separation process techniques to liberate and concentrate the gold from the ore. The primary unit operations include:

- Crushing and Coarse Ore Storage
- Crushed Ore Reclaim
- Grinding
- Flotation
- Concentrate Treatment
- Flotation Tailing Treatment
- Tailing Systems
- Carbon Handling and Refinery

In addition, ancillary operations include:

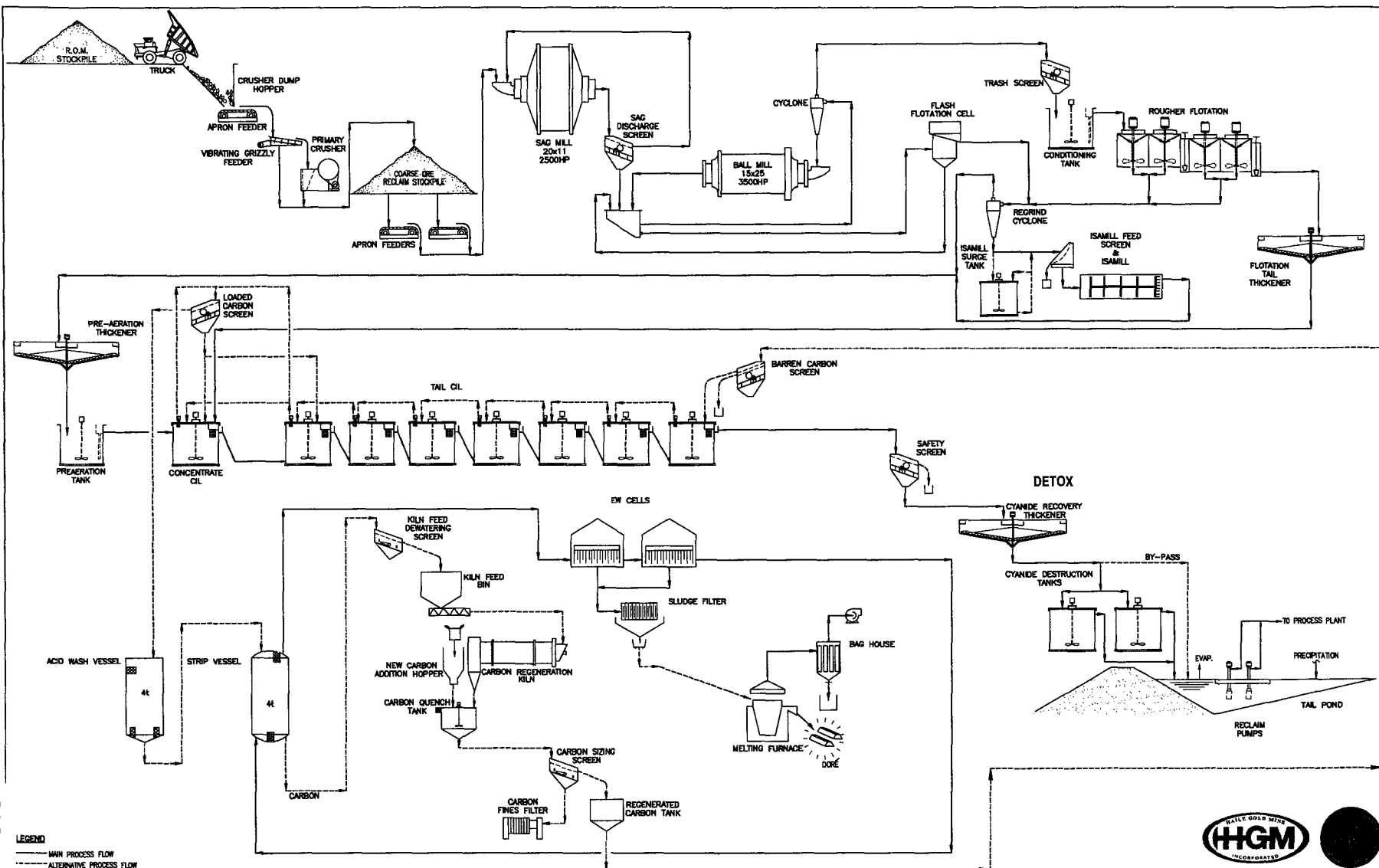
- Reagent Storage and Mixing
- Water Systems
- Compressed Air Systems
- Process Containment and Events Pond

The following sections describe the processes and circuits involved. They are schematically shown on the process flow sheet 000-EN-001 (Figure IV-2) and the process site plan 000-EN-002 (Figure IV-3).

Crushing and Coarse Ore Storage

Ore from the mine will be transported to the primary crusher in haul trucks. The ore is crushed to less than six (6) inches in the primary crusher. The trucks dump ore into a feed hopper or to a stockpile ahead of the primary crusher. A front end loader will be used to feed the crusher feed hopper if needed.

The ore will discharge from the crusher feed hopper using an apron feeder, The feeder delivers the run of mine ore to a vibrating grizzly, which is slotted to separate large ore particles from small ore particles. Ore particles smaller than six inches will pass through the slots and bypass the jaw crusher. Ore that is larger than the 6" slot openings will be fed to the jaw crusher. The fine ore that passed through the vibrating grizzly feeder will discharge onto a conveyor that collects ore from the discharge of the crusher. The ore passing through the primary crusher is reduced in size to less than six inches and falls onto the crusher discharge conveyor and combines with the ore that passed through the grizzly.



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A hydraulically operated rock breaker will be provided for breaking oversize rock delivered to the jaw crusher. The primary crushing facility will be equipped with an air compressor to provide high pressure air requirements for maintenance equipment such as air tools and air lances.

The primary crusher discharge conveyor will feed crushed ore to the coarse ore stockpile feed conveyor. The coarse ore stockpile feed conveyor will transport the ore to a conical coarse ore stockpile. The crushing production rate will be monitored by a belt scale mounted on the coarse ore stockpile feed conveyor. A tramp iron magnet will be installed at the discharge of the primary crusher discharge conveyor to remove any unwanted metal from the crusher discharge stream. A metal detector will be installed over the coarse ore stockpile feed conveyor to insure that any tramp metal has been removed.

A water spray system will be installed to suppress dust in ore feed streams, transfer points between conveyors and chutes, and the crusher dump pocket.

The coarse ore stockpile will have approximately one day of full throughput live storage capacity. Dead storage may be recovered by bulldozer and/or a front end loader when needed.

Any ore spillage will be returned to the nearest belt conveyor for processing. Precipitation falling on the crusher will be collected in a sump in the lowest level of the crusher structure and will be pumped to the process plant for use in the process.

Crushed Ore Reclaim

Two draw points under the crushed ore stockpile will provide ore to two reclaim apron feeders located in a tunnel under the stockpile. The reclaim feeders will discharge onto the SAC mill feed conveyor. Each feeder will be capable of feeding up to 400 tons per hour of ore to the SAC mill feed conveyor. The feeders will be variable speed and controlled to maintain the ore feed rate to the grinding circuit. Either or both feeders may be operated at any time. The speed of the feeders will be controlled by a control signal that will be provided by a belt scale mounted on the conveyor down stream of the feeders. A magnet will be installed over the SAC mill feed conveyor to make sure any tramp metal is removed.

In addition to water sprays at ore transfer points, cartridge type dust collectors will be installed to capture and control dust from the reclaim feeders within the reclaim tunnel.

Precipitation that lands on the ore stockpile or that is collected in the reclaim tunnel area will be collected in a sump in the lowest corner of the tunnel and will be pumped to the process plant for use in the process.

Grinding

The crushed ore from the reclaim tunnel is conveyed to the grinding circuit. The grinding circuit will process an average of 7,000 tons of ore per day on a 365 days per year basis. At 92% plant availability, this equates to a design throughput of 7,609 ton per day. Ore will be ground to a final product size of 80% passing 200 mesh (74 microns) in a semi-autogenous (SAC) primary mill and secondary ball mill grinding circuit.

Primary grinding will be performed in a SAC mill. The ore from the SAC mill feed conveyor is deposited into the SAC mill and is mixed with water to make a solid and liquid mixture referred to as slurry. The SAC mill will operate in closed circuit with a SAC mill discharge screen. Closed circuit implies that the slurry discharge from the mill is screened with the coarse material that does not pass the screen openings returning to the feed of the SAC mill and the finer material progressing to the second stage of grinding in the ball mill circuit.

SAC mill discharge screen oversize material will report to a series of two belt conveyors that will transport the oversize back to the SAC mill feed conveyor.

Secondary grinding will be performed in a ball mill operated in closed circuit with hydrocyclones. The hydrocyclones segregate the ore particles by size with the fine material reporting to the hydrocyclone overflow and the coarse product reporting to the cyclone underflow. The underflow returns to the ball mill for additional grinding. The ball mill product will discharge over a trommel screen prior to being pumped to the hydrocyclones. The trommel screen will separate ball chips and tramp material from the process stream and deliver that material to tote bin for removal.

The ball mill discharge slurry will fall through the trommel where it will be combined with SAC mill discharge screen undersize slurry in the hydrocyclone feed pump box. This combined slurry will be pumped, using variable speed slurry pumps, to the hydrocyclones for sizing. Hydrocyclone underflow will flow by gravity back to the ball mill for additional grinding.

A portion of the combined SAC mill and ball mill slurry will be pumped to a flash flotation cell. The flash flotation cell separates the gold bearing sulfide minerals from the gangue material into a concentrate stream containing the gold containing sulfides and a tail stream containing the gangue. The flash flotation concentrate will flow by gravity to the regrind circuit while the tail is returned to the hydrocyclone feed sump.

Hydrocyclone overflow (final grinding circuit product) will flow by gravity to a vibrating trash screen for removal of tramp material. Trash screen oversize will discharge into a tote bin for removal. Trash screen undersize will flow by gravity to the rougher flotation conditioning tank.

An overhead crane will be provided for maintenance purposes. The area will be equipped with a sump and pump for clean-up purposes.

The grinding and flotation circuit is an open air plant covered with a roof only. The floor will be concrete with containment walls to contain process upsets within the grinding and flotation area. The floor will be sloped to floor sumps that collect the contained solution and solids, which are then pumped back to the hydrocyclone feed pump box. The "Process Containment and Events Pond" section discusses containment sizing.

Flotation

As discussed previously, a portion of the combined SAC mill and ball mill discharge will be pumped to a flash flotation cell. Tail from the flash flotation cell will flow by gravity back to the hydrocyclone feed sump. Concentrate from the flash flotation cell will flow by gravity to the regrind hydrocyclone feed pump box.

Hydrocyclone overflow will flow by gravity to a flotation feed trash screen for removal of tramp material ahead of the rougher flotation conditioning tank. Trash screen undersize will flow by gravity to the rougher flotation conditioning tank.

Flotation concentrate from both the flash flotation cell and the rougher flotation cells will be pumped to a regrind circuit. The concentrate regrind circuit grinds the material to approximately 15 microns. . Various flotation reagents will be added to the SAC mill feed, to the cyclone feed sump, to the rougher flotation conditioning tank and stage added to the rougher flotation cells as needed to achieve efficient flotation recovery. The "Reagent Storage and Mixing" section discusses these reagents in more detail along with associated addition points.

Concentrate Treatment

Regrind

Combined flotation concentrate from the flash flotation cell and the rougher flotation cells will be pumped using a variable speed pump to the regrind hydrocyclone cluster. The underflow stream from the regrind hydrocyclone cluster will flow by gravity to the regrind mill for additional grinding. Overflow from the regrind hydrocyclone cluster will flow by gravity to the regrind mill discharge pump box. Product from the regrind mill will be combined with the regrind cyclone overflow in the regrind mill discharge pump box, where it will be pumped using a variable speed pump to the pre-aeration thickener feed box. Regrind hydrocyclone underflow may be bypassed to an agitated surge tank ahead of the regrind mill for storage when the regrind mill is down for maintenance.

Pre-aeration

Regrind concentrate will be pumped to a thickener. Flocculant and dilution water will be added to the thickener feed to aid in settling. In addition, milk of lime (MOL) may be added to the thickener feed.

The withdrawal rate of thickened solids will be controlled by a variable speed thickener underflow pump to maintain the proper slurry characteristics. Underflow from the pre-aeration thickener will be pumped at approximately 60% solids to an agitated pre-aeration tank where it will be diluted to approximately 45% solids with internal reclaim water ahead of a series of eight agitated carbon-in-leach (CIL) tanks.

The thickener overflow will be pumped using a fixed speed pump to the internal reclaim water tank for reuse in the grinding and flotation process circuits.

The pre-aeration circuit will consist of one agitated tank. Process air will be piped to the tank and bubbled through the slurry to oxidize the ore. Aeration enhances gold recovery and reduces the amount of reagents required for leaching. Also, lead nitrate will be added to the pre-aeration tank to promote better gold recovery.

Slurry from the pre-aeration tank will be pumped to CIL tank #1 where it will be leached with cyanide in the presence of activated carbon.

The pre-aeration thickener will be mounted on steel legs on foundations. A concrete containment area with slab on grade and cast-in-place walls will contain precipitation and process spills within the regrind, pre-aeration and thickening areas. A sump pump will transfer the contained material back to the pre-aeration thickener for processing.

Flotation Tailing Treatment

The rougher flotation tailing will still contain enough gold to justify further processing. This section describes the process that will be used to recover the additional gold from the flotation tailing.

Flotation Tail Thickener

The rougher flotation tailings will flow by gravity to a thickener. Flocculant, milk of lime and dilution water (internal reclaim) will be added to the thickener feed to aid in settling.

The withdrawal rate of settled solids from the thickener will be controlled by a variable speed thickener underflow pump to maintain the proper slurry characteristics. Underflow from the flotation tailing thickener will be pumped using a variable speed slurry pump, at approximately 60% solids, to the CIL tank #2 feed box where it is combined with the discharge from CIL tank #1. The combined slurry will be diluted to approximately 45% solids with reclaim water ahead of the remaining seven CIL tanks where it will be leached with cyanide in the presence of activated carbon.

The thickener overflow will be pumped using a fixed speed pump to the internal reclaim water tank. The flotation tail thickener will be mounted on steel legs on foundations. A concrete containment area with slab on grade and cast-in-place walls will contain precipitation and process spills. A sump pump will transfer the contained water back to the flotation tail thickener.

Carbon-In Leach (CIL)

The CIL circuit will consist of eight agitated tanks. The gold is leached from the ore and adsorbed onto activated carbon that is mixed within the slurry. The first CIL tank will be used to leach reground flotation concentrate only and will provide approximately 20 hours of retention time. The remaining seven CIL tanks (i.e. tanks #2 through #8) will be used to leach the combined flotation tailing and discharge from tank #1. The seven tanks will provide approximately 20 hours of total retention time at 45% solids. Cyanide solution may be added to the first and second CIL tanks. Process air will be piped to all tanks. Milk of lime may be added to the CIL circuit to adjust pH if required.

Slurry will advance by gravity from tank to tank, exiting the last tank and reporting by gravity to the CIL carbon safety screen.

The CIL tanks will nominally contain 10 g/L of 6 x 12 mesh granular activated carbon to adsorb the dissolved precious metals from the slurry.

Carbon, which has a larger particle size than the ground slurry, will be retained in each CIL tank by an inter-stage screen that will allow only the ore slurry to flow from tank to tank. The carbon will be advanced to the next tank in series (counter-current to the slurry flow) on a batch basis using vertical recessed impeller pumps located in each tank. Loaded carbon (i.e. carbon with precious metals adsorbed onto it) from either the first tank, the second tank, or the third tank will be pumped to the loaded carbon screen. The carbon (screen oversize) will be water washed on the screen and then discharged by gravity into the acid wash vessel while the screen undersize will be returned to the appropriate CIL tank.

A concrete containment slab on grade and containment walls will contain precipitation and process spills in the CIL area. A sump pump will transfer the material back to the process.

CIL Carbon Safety Screen

Slurry discharging from the last CIL tank will flow by gravity to a CIL carbon safety screen fitted with 28-mesh screen panels. The purpose of this screen is to prevent accidental losses of activated carbon.

The oversize (carbon) from the safety screen will be collected and returned to the CIL circuit. Slurry that passes through the screen will be pumped using a fixed speed pump to the cyanide recovery thickener.

A concrete containment slab on grade and containment walls will contain precipitation and process spills. A sump pump will transfer this material back to the process.

Tailing Systems

Cyanide Recovery Thickener and Tailing Detoxification

The CIL carbon safety screen undersize stream will report to the cyanide recovery thickener feed box. Dilution water (reclaim water), flocculant, and milk of lime are added to the slurry which is then thickened to approximately 55% solids. Overflow solution containing cyanide from the cyanide recovery thickener is routed to the reclaim water tank for reuse in the process. Within process operating limits, a maximum amount of dilution water will be used at all times to minimize the cyanide remaining in the slurry. Under normal operating conditions, the cyanide recovery thickener underflow will be pumped to the tailing storage facility. The withdrawal rate of settled solids will be controlled by a variable speed thickener underflow pump to maintain proper slurry characteristics.

As stated above, cyanide recovery thickener underflow will be pumped to the tailing storage facility under normal conditions. If the cyanide level is high enough (i.e. greater than or equal to 50 ppm weak acid dissociable (WAD) cyanide), the flow can be directed to the cyanide destruction tanks, where cyanide is destroyed using the SO₂/Air process.

In the cyanide detoxification tanks, residual free and WAD cyanide will be oxidized to the relatively non-toxic form of cyanate by the SO₂/Air process using ammonium bisulfite and oxygen, with copper sulfate as a catalyst as needed. Milk of lime will also be added as needed to maintain a slurry pH in the range of 8.0 to 8.5. The more stable iron cyanides are removed from solution as an insoluble ferrocyanide precipitate. The cyanide levels are thereby reduced to an environmentally acceptable level.

The detoxification is accomplished in two agitated tanks operating in parallel. Each tank will provide a residence time of approximately 30 minutes.

Discharge from the cyanide detoxification tanks will be final plant tailing and will be pumped to the tailing storage facility.

A concrete containment slab on grade and containment walls will contain precipitation and process upsets in the cyanide recovery thickener and cyanide detoxification area. A sump pump will transfer the material back to the cyanide recovery thickener.

Carbon Handling and Refinery

Carbon Acid Wash

Loaded carbon from the CIL circuit will flow by gravity to a carbon acid wash vessel. The carbon will be acid washed to remove inorganic contaminants (mainly calcium carbonate) by circulating dilute hydrochloric acid from the acid wash recirculation tank upwards through the bed of carbon. Residual acid in the acid wash vessel will be neutralized with caustic before transferring the carbon to the strip vessel. The carbon is transferred with water using a horizontal recessed impeller pump. Carbon transfer water comes from the closed circuit carbon transfer water system.

A concrete containment slab independent of the carbon strip area containment slab on grade and containment walls will contain precipitation and process spills in the acid wash area. A sump pump will transfer the material back to the process.

Carbon Stripping

Gold will be removed from the carbon utilizing a pressure Zadra circuit. The pressure Zadra circuit comprises circulating a 280°F caustic cyanide solution upward through the partially fluidized bed of loaded carbon. This process is also known as carbon stripping. A more thorough description of the process is as follows:

The loaded carbon from the acid wash circuit will be pumped into the top of the strip column and the excess water will be drained to the floor sump and returned to the process using a sump pump. After the complete batch of carbon has been transferred, the strip cycle will be initiated by pumping hot caustic cyanide solution from the barren solution tank into the bottom of the strip vessel. The solution will discharge through a screened outlet at the top of the vessel before passing through the heat recovery exchanger to the pregnant (strip solution that contains the concentrated gold) solution tank. The hot side of the final heat exchanger is piped to a thermal fluid heater. Approximately 10 Bed Volumes (BV's) at a rate of 2 to 3 BV/hr will be passed through the carbon to remove all the precious metals. A Bed Volume is the volume of solution that occupies the space in the vessel that is occupied by the carbon. A final 3 BV of hot water will be used to wash the carbon at the end of the stripping cycle. After the stripping circuit has been cooled down, the carbon will be transferred with water to the reactivation circuit using a horizontal recessed impeller pump.

A concrete containment slab on grade and containment walls, independent of the acid wash area, will contain precipitation and process spills in the carbon strip area. A sump pump will transfer the water back to the process.

Refinery

The pregnant strip solution produced in the carbon strip circuit is collected in the pregnant solution tank, where it is pumped to electrowinning cells to recover the precious metals. Electrowinning is used to recover the precious metals from the pregnant solution, and it is an electrolytic process where the precious metals are recovered from the solution by passing direct electrical current between electrodes (anodes and cathodes) immersed in the solution. As the current passes from the anode to the cathode, the precious metals loosely plate onto the cathode as a sludge.

Electrowinning is accomplished in two electrowinning cells in series. Each cell contains anodes (304-stainless-steel punched plate) and cathodes (stainless steel mesh held in place by 304-steel bayonets

and wire frames, and suspended in cross linked polyethylene baskets). Each cell has a DC rectifier capable of delivering a current of 0 to 2000 amps at a voltage of 0 to 9 volts.

The flow rate of pregnant solution through each cell is approximately 50-70 gallons per minute (gpm). During electrowinning the solution flows by gravity to the electrowinning (EW) pump box. From there, the EW barren solution pump delivers the solution to the barren strip solution tank. The sludge will be periodically washed off the cathodes and recovered as a damp cake in a plate and frame filter press. The filter cake will be dried in a drying oven prior to smelting.

The dried filter cake (gold sludge) will be processed, along with pre-mixed flux, in an electric induction melting furnace. When the sludge and flux mixture becomes fully molten, the components separate into two distinct layers: slag (on the top) and metal (on the bottom). The slag layer, containing most of the impurities, is poured off first into a conical slag pot. The remaining molten metal, containing the precious metals and minor impurities, is then poured off into bar molds.

After cooling and solidifying, the metal bar (doré) will be dumped from the mold and slag will be knocked off by hand. The resulting doré bar will be further cleaned of residual slag using a shot cleaning machine and finished as required with a needle gun. The cleaned bars are then weighed and stamped with an I.D. number and weight. Doré bars, each weighing a total of approximately 50 to 80 pounds, will be the final product of the operation and will be stored in a vault awaiting shipment.

Slag will be collected and returned to the process.

Exhaust from the barren solution tank, the pregnant solution tank, and the electrowinning cells will be collected through ductwork and passed through an exhaust control system before discharging to atmosphere. Fumes from the drying oven and the melting furnace will be collected through ductwork and cleaned in a bag house before discharging through an exhaust control system to atmosphere.

The refining building will be enclosed by concrete block walls with a steel framed roof and metal roofing. Water used for cleanup and any spills will be collected and pumped back into the process.

Carbon Reactivation

Following stripping, the carbon will be thermally regenerated before being returned to the CIL circuit. Carbon used in the CIL circuit can be fouled by various organic compounds such as flocculant and flotation reagents. The organics on the surface and in the pores of the carbon blind the adsorption sites available for gold/silver recovery. Thus, organics are removed from the carbon by volatilizing them at high temperatures. The process of restoring the active sites on the surface of the carbon and removing the organics is called carbon reactivation.

Stripped carbon will be pumped from the bottom of the strip vessel to a dewatering screen ahead of a rotary tube reactivation kiln. The coarse carbon particles in the screen oversize will go into the reactivation kiln feed bin. The fine carbon particles and the transfer solution will pass through the screen and flow to a carbon fines settling tank. The feed bin has two wedge wire screens sitting in discharge pipes in the bottom of the bin, and any remaining solution may be drained through these screens and pipes to the floor sump where it is returned to the process.

Well drained damp carbon will be fed from the feed bin into the feed end of the rotary tube reactivation kiln using a variable speed screw conveyor. The reactivation kiln will be heated to temperatures as high as 1400 °F. After entering the feed end of the tube, the carbon will travel down the sloping tube and discharge into a quench tank, where it is quickly cooled. As the hot carbon contacts the fresh water in the quench tank steam is generated, which will provide the desired moisture in the atmosphere above the carbon inside the kiln tube.

Exhaust gases from the reactivation kiln will pass through a wet scrubber and exhaust control system which discharges to atmosphere.

Quenched carbon will be pumped by the quench tank carbon transfer pump to a carbon sizing screen. The coarse carbon particles in the screen oversize will go into the regenerated carbon holding tank. The fine carbon particles and the bulk of the fresh water will pass through the screen and flow to the carbon fines settling tank. The feed bin will have two wedge wire screens sitting in discharge pipes in the bottom of the bin allowing excess water to be drained to the floor sump and pumped back to the process. Reactivated carbon will be pumped, using carbon transport water, from the regenerated carbon holding tank back to CIL tank #8 for reuse.

Periodically, new activated carbon must be added to the system to make up for fine carbon losses. A bulk bag containing approximately 1500 lb of carbon will be suspended above the carbon quench tank. The tank is filled with water, which will be mixed by an agitator. The bottom of the bag will be opened and carbon allowed to flow gradually into the tank. The agitating action quickly wets the surfaces of the carbon and attrits the carbon particles to break up any lumps.

Screen underflow containing carbon fines from the kiln feed dewatering screen and the carbon sizing screen will flow to the carbon fines settling tank. Carbon fines will be recovered using a plate and frame filter and sold or disposed of. A concrete containment slab on grade and containment walls will contain precipitation and process spills. The regeneration area sump pump will return the solutions and spills to the process.

Reagent Storage and Mixing

Reagents requiring handling, mixing, and distribution systems include:

- Sodium cyanide (NaCN)
- Quicklime (Pebble Lime) (CaO)
- Aero 404
- Potassium Amyl Xanthate (PAX)
- Caustic (sodium hydroxide) (NaOH)
- Ammonium Bisulfite (ABS)
- Copper Sulfate (CuSO₄)
- Hydrochloric Acid (HCl)
- Sulfuric Acid (H₂SO₄)
- Lead Nitrate (PbNO₃)
- Flocculant
- Antiscalant
- UNR 811A

The dry reagents will be stored under cover, then mixed in reagent tanks and transferred to distribution tanks for process use.

The reagent building will be a steel framed structure with metal roofing. In general, the building is open, but metal siding will be installed where necessary to keep reagents dry. The floors will be slab on grade concrete with concrete containment walls to capture spills and any precipitation that enters the sides of the structure.

Reagents which are not compatible to be stored together will be kept in separate containment areas within the reagent storage area. Sump pumps in the different containment areas will return these materials to the appropriate process stream.

Sodium Cyanide (NaCN)

Sodium cyanide solution will be added to the ore in the leach circuit to recover gold and silver. Also, sodium cyanide solution will be used to promote the removal of gold and silver from the carbon in the carbon stripping circuit.

Dry sodium cyanide will be delivered in bulk quantity by 20 ton trucks. Sodium cyanide solution will be prepared by adding water to a sodium cyanide mix tank and circulating the solution between the mix tank and the bulk truck until all the dry cyanide has been dissolved. The tanker truck will then be emptied and thoroughly rinsed before leaving site. Throughout the mixing process, the bulk tanker is parked on containment that drains to the main cyanide area containment inside the reagent building. Sodium cyanide solution will be distributed to the CIL circuit and barren strip solution tank using individual metering pumps.

Quicklime (Pebble Lime) (CaO)

Milk of lime slurry will be produced by hydrating pebble quick lime in a lime slaker. Milk of lime slurry will be used to control pH in various parts of the process. Milk of lime slurry will be distributed to the CIL circuit, cyanide detoxification tanks and thickeners using timer controlled on-off valves in a circulating loop.

Dry pebble quicklime will be delivered to the site in bulk quantity by 20 ton trucks and will be pneumatically off loaded to a cone bottom lime silo storage bin. The bin will be equipped with a bin vent type dust collector.

AERO 404

AERO 404 promoter will be added to the SAC mill and rougher flotation circuit to enhance flotation of gold and gold-bearing sulfide minerals.

AERO 404 will be delivered as an aqueous solution in bulk tanker trucks. AERO 404 may be added directly or may be diluted for ease of metering. AERO 404 will be added to the SAC mill prior to flash flotation and to the rougher flotation conditioning tank using individual metering pumps.

Potassium Amyl Xanthate (PAX)

PAX (collector) will be added to the SAC mill and rougher flotation circuit to enhance the flotation of gold and gold-bearing sulfide minerals. Dry PAX will be delivered to the site in flo-bins or supersacs. The PAX mix system will include a conical bottom, agitated mix tank and a sloped bottom distribution

tank. PAX will be added to the SAC mill prior to flash flotation and to the rougher flotation conditioning tank using individual metering pumps.

Caustic (NaOH)

Caustic soda solution will be used in the carbon strip circuit to neutralize acidic solutions after acid washing the carbon and as a reagent in the carbon stripping process. In addition, caustic can be added, if needed, to the cyanide mixing system to maintain the proper pH of the cyanide solution.

Liquid caustic soda (50% solution) will be delivered in bulk tanker trucks. Caustic will be off loaded to a heated and insulated storage tank. Caustic will be distributed to the appropriate location on an as needed basis using individual delivery pumps.

Ammonium Bisulfite

Ammonium bisulfite will be added to the tailing detoxification circuit as the primary source of sulfur dioxide (SO₂) to oxidize free cyanide and weak acid dissociable (WAD) metal cyanide complexes (INCOTM process).

Liquid ammonium bisulfite will be delivered in 20 ton bulk tanker trucks and offloaded into a storage tank. The ammonium bisulfite solution will be pumped directly from the storage tank to the cyanide detoxification tanks using a metering pump.

Copper Sulfate

Copper sulfate will be added to the cyanide detoxification tanks to provide copper ions as a catalyst for the cyanide detoxification process. Dry copper sulfate will be delivered in supersacs and stored in a dry area. The copper sulfate system will comprise an agitated mixing tank and a holding tank.

Hydrochloric Acid

Hydrochloric acid will be used in the carbon strip circuit to acid wash carbon. Hydrochloric acid (30%) will be delivered in 20 ton bulk tanker trucks. Acid will be off loaded from the bulk truck to a storage tank. A dilute acid solution will be prepared by pumping acid directly from the storage tank to the acid wash circulating tank as needed.

Sulfuric Acid

Sulfuric acid will be used in the grinding and rougher flotation circuits to maintain pH. Sulfuric acid (93%) will be delivered in 20 ton bulk tanker trucks. Acid will be off loaded from the bulk truck to a storage tank. Metering pumps will be used to deliver sulfuric acid to the SAC mill and to the rougher flotation conditioning tank.

Lead Nitrate

Lead nitrate will be added to the pre-aeration tank to enhance leaching. Dry lead nitrate will be delivered in 25 kg pails and stored in a dry area. The lead nitrate system will comprise an agitated mixing tank and a holding tank. A metering pump will be used to deliver lead nitrate solution to the pre-aeration tank feed box.

Flocculant

Flocculant will be added to the pre-aeration thickener, to the flotation tailing thickener and to the cyanide recovery thickener to enhance solids settling. Pre-engineered flocculant mixing systems will be used to mix and distribute dry flocculant. The dry flocculant will be delivered in supersacs.

Antiscalant

Antiscalant will be added to the reclaim water and internal reclaim water tanks to prevent scaling in pipelines, tanks, etc. The antiscalant will be delivered in bulk tanker trucks and will be added to the process using metering pumps directly coupled to vendor supplied tanks.

UNR 811A

If needed, UNR 811A may be added to the reclaim water tank and the internal reclaim water tank using metering pumps directly coupled to vendor supplied tanks. UNR 811A is used to abate mercury production by complexing mercury to form a stable organic sulfide precipitate. Although mercury production is expected to be negligible, the system is being installed to ensure mercury can be addressed if ever needed.

Flux

Flux will be added during the smelting stage to remove contaminants from the electrowinning sludge. Dry pre-mixed flux will be delivered in 10 lb pre-packaged bags that come in drums on pallets. Flux will be manually added to the melting furnace.

Water Systems

Water for the Haile Project will be supplied from a variety of sources over the life of the mine. Fresh water (non-potable) will be supplied from pit depressurization wells. Water from the wells will be pumped to a fresh water tank. The fresh water tank will supply the requirements for reagents, crushing area dust suppression, and for use as makeup water in ore processing. In addition, fresh water will be available at the truck shop and the truck wash.

Water will be recovered from the pre-aeration thickener, from the flotation tail thickener, and from the cyanide recovery thickener for reuse in the process. The recovered water from the 'non-cyanide' unit operations of the process (i.e., flotation tail thickener overflow and pre-aeration thickener overflow) will be directed to an Internal Reclaim water tank. Recovered water from the cyanide recovery thickener will be directed to the Reclaim water tank. Make-up water from the fresh and/or reclaim water tanks will be added to the internal reclaim water tank as required.

Water will be reclaimed from the tail pond using reclaim water pumps mounted on floats. Reclaimed water will be pumped to the reclaim water tank, located near the process plant, for subsequent use as make-up water in ore processing.

Compressed Air Systems

An air compressor and air receiver will be installed for operation and maintenance at the primary crushing area.

Plant air compressors will provide service and instrument air for grinding through cyanide detoxification unit operations. An air dryer will remove moisture in instrument air. Plant air and instrument air receivers will be provided.

Individual low pressure blowers will be located in the flotation area to provide air to the flash flotation cell and to the rougher flotation cells.

A low pressure blower will provide air to the bottom of the pre-aeration tank and to the CIL tanks.

A low pressure blower will provide air to the cyanide detoxification tanks.

Tank mounted reciprocating air compressors will be installed for operation and maintenance at the truck shop and at the mill maintenance building.

Process Containment and Events Pond

To ensure all process upset conditions do not impact the environment, the process facility has been designed with the following safe guards:

Process Containment

The process facilities will be designed to contain any spills caused by an upset in process. Each area, as described previously in this document, will be designed such that it is built on a concrete floor that has cast in place concrete walls. The floor area and wall heights will be designed to capture any process spills and the floors will be sloped toward a collection sump for cleanup and the return of process solutions or slurries back to the process streams for which it is best suited. Table IV-1 summarizes the main containment areas.

TABLE IV-1. Process Containment Philosophy

Containment Area	Indoor / Outdoor	Containment System	Containment Volume	Sump Pumps to
Grinding Building	Covered	Concrete Pad with stem walls	110% of Largest Vessel	Cyclone feed pump box
Flotation and Regrind	Covered	Concrete Pad with stem walls	110% of Largest Vessel	First flotation cell
Pre-Aeration Thickener	Outdoor	Concrete Pad with stem walls	110% of Largest Vessel	First flotation cell
Leach Area	Outdoor	Concrete Pad with stem walls	110% of Largest Vessel + 100 Year/ 24 hour storm event	First Leach Tank
Final Tailing Thickener	Outdoor	Concrete Pad with stem walls	110% of Largest Vessel + 100 Year/ 24 hour storm event	Tailing Thickener
Reagent Area	Covered	Concrete Pad with stem walls	110% of Largest Vessel in each containment area	Pump Truck
Fresh and Reclaim Water Pad	Outdoor	Concrete Pad with stem walls	110% of Largest Vessel + 100 Year/ 24 hour storm event	Reclaim Water Tank
Tailing Line	Outdoor	Lined Trench and Pond	110% of the entire pipeline volume + 100 year/ 24 hour storm event	Tailing Thickener
Truck Shop Tank Farm	Outdoor	Concrete Pad with stem walls	110% of Largest Vessel + 100 Year/ 24 hour storm event	Pump Truck
Refinery	Indoor	Concrete Pad with stem walls	110% of Largest Vessel	Pump Truck
Fuel Tanks	Outdoor	Local concrete slab and sumps for minor spills. Double walled tanks on concrete		

Events Pond

The Events Pond will be designed to capture any solutions or slurries that escape the main process containment facilities, tailing slurry pipeline or reclaim water line. Each containment area has been designed to capture spills in accordance with Table IV-1. Should multiple events occur, any material that would not fit within the containment area will report to the events pond. The additional solution or slurry from the failure would exit the containment area through a pipeline and would flow by gravity to the lined pond.

The tailing and reclaim pipelines are designed to have double containment involving either a pipeline within a pipeline or a pipeline within a lined containment structure or trench. Should a failure of the tailing pipeline occur or should an unanticipated power failure occur, the material from the pipeline would drain to the Events Pond for contained collection of the pipeline material.

Once the event materials have been collected and the failures have been repaired, the material that reported to the events pond will be removed and returned to the process area for which it is best suited.

C. Hazardous Waste and Storage Tanks

Currently, Haile Gold Mine is a conditionally exempt small quantity generator of hazardous waste. During the new mining activities, this will likely be increased to a small or large quantity generator of hazardous waste pursuant to the Resource Conservation and Recovery Act ("RCRA") regulations administered by the South Carolina Department of Health and Environmental Control ("DHEC"). There will be no on-site treatment storage or disposal ("TSD") of hazardous waste from the facility. Thus, it is anticipated that any hazardous waste generated will remain on site for no greater than 90 days before being shipped to an off-site TSD facility.

The waste streams that are anticipated to be generated from the tailing facility are conditionally exempt from hazardous waste regulations under the "Bevell Amendment" to RCRA.

Other minor sources of hazardous waste may also be generated. Employees who handle such waste materials will be properly trained in the waste management in a manner consistent with DHEC regulations. Haile will develop a Solid and Hazardous Waste Management Plan that will identify and characterize all waste streams at Haile to ensure proper storage, handling, and disposal.

Multiple above ground storage tanks containing petroleum products will be located at the project site. Each of these tanks will be either double-wall or equipped with secondary containment, as required by 40 CFR Part 112, and are associated with fueling and maintenance activities for the construction and operation activities located on the mine property.

D. Site Wide Water Management

Across the project site a detention structure, diversion channels, culverts, conveyance pipes, sediment collection channels, and sediment detention basins are proposed to control site-wide surface water runoff due to stormwater.

The site wide water balance is a key operational consideration for Haile Gold Mine. At all times, adequate storage must be available in the TSF for both mill process and meteorological water. Project storage and treatment facilities must be adequately sized for the volume of contact water that is anticipated to be generated. The purpose of the site wide water balance is to estimate:

- Process solution storage at the Duckwood Tailing Storage Facility (TSF);
- Rates and volumes of surface water runoff generated from various areas on site;
- Available water supply verses demands for mill and mine operations;
- Amount of TSF reclaim, contact water and non-contact water used in mill and mine operations;
- Amount of contact water requiring treatment.

The water balance model was developed as a tool to aid in the design of TSF and water management facilities and assist with future water management planning. It is intended to be a tool that allows Haile to better understand water management decisions for safe operations of the facility.

The water balance was developed to analyze in a probabilistic manner accurate estimates of how wet and dry periods will impact water management. Multiple possible scenarios are modeled covering a range of potential occurrences. Results from these multiple realizations provide a range of potential outcomes allowing risk-based decision making.

The general design criteria have been developed considering the following: The site wide water balance was developed to include all major facilities that are expected to add water to the system, facilities that store water, facilities that use water and water treatment that removes water from the system. A schematic of the overall system is provided on Figure IV-4.

Water that is added to the system is grouped into two categories: contact water that requires treatment before it can be released and non-contact water that does not require treatment. Non-contact water may require detention for sediment, but is not expected to be run through the water treatment plant.

Contact Water

- Free water in the TSF
- Runoff and underdrain from PAC Overburden and Low Grade Ore Stockpile
- Direct precipitation and runoff accumulating in the active and inactive pits

Non Contact Water

- Runoff from Topsoil Stockpiles
- Runoff from Overburden Storage Areas
- Groundwater from Pit Depressurization
- Runoff from Undisturbed Ground
- Run-on from Upgradient Areas
- Runoff from TSF Outer Perimeter
- Runoff from the Plant Site

The site wide balance used annual, end of year mine facility areas in conjunction with runoff coefficients to estimate runoff, seepage, or pumping rates on a monthly basis.

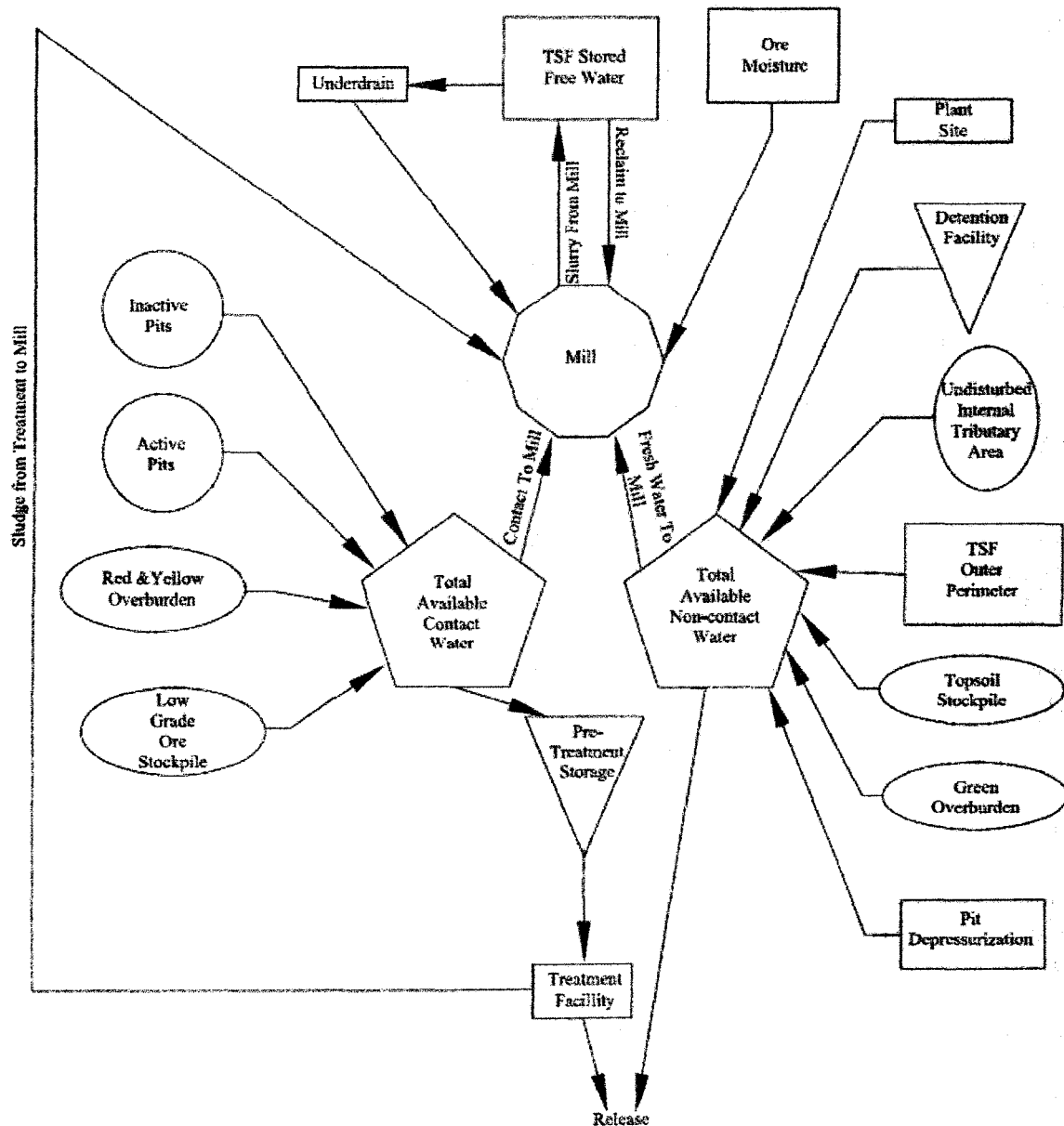


Figure IV-4. Schematic of the Overall System

Duckwood Tailing Storage Facility

The TSF will be the primary storage vessel for operational water used to meet mill water demands. Free water from tailing slurry and precipitation add water to the TSF. Geometric data for the TSF modeled in the water balance includes total surface area of the impoundment, exposed liner areas and tailing surface areas throughout time. For safety purposes, it was assumed that freeboard is required in the TSF for the Probable Maximum Precipitation (PMP). The General PMP event produces 47.96 inches of rainfall; therefore a minimum of four feet of freeboard is required to store the runoff volume associated with the storm.

Overburden Storage Areas

There will be 8 overburden storage facilities on the mine site. Seven of the overburden storage facilities will contain non-acid generating (NAG) material. Runoff from these storage areas will be detained in sediment ponds, then be released without treatment. This water is considered non contact water.

One overburden storage facility will contain potentially acid generating (PAG) material. This storage area will be constructed with a geomembrane-lined basin and collection underdrains. Runoff and underdrain flow from this facility will be considered contact water.

A low grade ore stockpile is located adjacent to the PAG overburden storage area. It will be constructed as part of the PAG OSA. Runoff and underdrain flow from the low grade ore stockpile will be considered contact water and require treatment prior to release.

Pit Development

Seven open pits will be in operation at various times throughout the life of the mine. Direct precipitation on and runoff collected in the pits will be considered contact water and will require treatment prior to release. It is assumed that runoff will be pumped out of the pits to a pre-treatment storage area.

A system of pumping wells will be used to depressurize groundwater surrounding the open pits. Depressurization of the pits is expected to be a significant, consistent source of water throughout the project. It is anticipated that this water will be of good quality and can be used as the fresh water source for mill makeup, for dust suppression or released.

Water Treatment and Pre-treatment Storage

Treatment will be required before any contact water can be released from the system. A water treatment facility with a capacity of 1,200 gpm was used for the water balance model. Monthly contact water runoff rates may peak at rates significantly higher than 1,200 gpm. A pre-treatment storage pond was added to the system to reduce the need to treat water at a high peak rate. During wet periods contact water can be stored for treatment at a later time so that the treatment rate can be significantly less than the peak runoff rate. During dry periods the treatment rate will exceed the runoff rate and water stored in the pond will be treated.

Haile Gold Mine Creek Detention Structure

A large portion of runoff from the mine will originate from miscellaneous undisturbed areas within the mine and the Haile Creek basin upstream of the mine site. This water will not come in contact with the mine facilities and is considered non contact. This water will be diverted with a diversion channel and discharged downstream of the mine. If required, it may be captured and used to meet fresh water demand at the mine.

Dust Suppression and Miscellaneous Water

Additional fresh water demands for dust suppression and miscellaneous use was added to the model. These additional water demands are assumed to be met using runoff from non-contact water generated on site or groundwater pit depressurization.

Plant Site

Runoff from the plant site is considered non contact water as all process water internal to the system will be captured internally and not allowed to come in contact with meteoric water. Plant site runoff will be captured and contained for sediment removal and then released with other non-contact water or used to meet mill fresh water demands.

The model was run using a monthly time step. The model has an assumed start of Month 0 and includes the first year of preproduction and 16 years of operations for a total of 204 months (17 years).

Water Balance Results

Water balance results indicate that sufficient storage will be maintained in the TSF to contain all slurry water. Free water reclaimed from the TSF, contact water and non contact water will be used to meet mill and mine water demands. All free water from the TSF will either remain in the TSF or be used in the milling process. Contact water that is generated on site that is not used for mine related purposes will need to be treated prior to being released to the environment. Non contact water that is not used is anticipated to be collected for sediment control, as needed, and released.

Contact Water Storage and Treatment Requirements

Water treatment capacity is designed for a rate of 1,200 gpm. During average precipitation conditions, contact water will be generated at average monthly rates of up to approximately 850 gpm. During potential wet years, contact water will be generated at average rates that exceed the treatment plant design capacity. The pre-treatment water storage facility will be used to temporarily store water in these instances and regulate treatment rates.

Water treatment is highly dependent on precipitation that will occur at the mine with all contact water requiring treatment derived from rainfall and runoff. Generally water requiring treatment is expected to grow as the mine develops, reaching a maximum in Years 5-8 of operations. During these years it is anticipated that the water treatment plant could be run at its maximum design rate if wet months or years occur. In this event approximately 18 million gallons of water would need to be stored in the pre-treatment facility to regulate treatment at 1,200 gpm. During extreme drought conditions, little to no

water treatment may be required. On an annual basis, water treatment requirements were predicted to range from none for drought conditions to an average annual rate of nearly 1,200 gpm for wet months or years.

Non Contact Water Release

Non contact water that is not used in the mill process will be released from the system. A majority of contact water is generated from rainfall and therefore the amount of non contact water to be released from the system is dependent on precipitation patterns. Given drought conditions, non contact water is expected to be released at average annual rates ranging from approximately 150 gpm to 900 gpm. Given average precipitation, non contact water is predicted to be released at average annual rates in the 2,000 gpm to 2,600 gpm rates.

Water generated from pit depressurization pumping is anticipated to be one of the significant sources of non contact water, and one that is not directly related to current precipitation patterns. As a result of this water supply, water is expected to be released from site at most times during the planned mine life.

Makeup Water Requirements

The site wide water balance predicts that given typical meteorological conditions, makeup water from outside sources is not expected to be required to meet mine water demands. In Year 2 through Year 8 of operations, water from pit depressurization is anticipated to be high enough that no outside makeup water would be required. During initial startup and later operations, pit depressurization pumping is not expected to be as great. During these periods the water balance is predicting that makeup water could be required if an extreme drought occurred. During the initial months of startup peak makeup of approximately 800 gpm could be required. During later operations the peak anticipated makeup water rate is 400 gpm for a drought where no precipitation occurs.

Conclusions

Precipitation values and design storms were developed for frequencies up to the 500-year, 24-hour storm event, as well as the Probable Maximum Precipitation values. The peak flows and resulting discharge volumes were evaluated for sizing each of the water management structures including the diversion channels, culverts, runoff collection channels, and Haile Creek detention structure. Watershed delineation was based upon topographic maps with 5-foot contour intervals and took into consideration the dynamic design life of the facility by evaluating each water management structure at the most critical design phase with the greatest peak discharge.

A site wide water balance was completed for the Haile Gold Mine to ensure that adequate storage is available in the Duckwood TSF for both mill process and meteorological water. Project water storage and water treatment facilities were adequately sized for the volume of contact water that is anticipated to be generated and take into account the influence of how dry and wet periods impact the overall site wide water management.

E. Reclamation Plan Overview

Overview

Provided below is an overview of the reclamation plan proposed to address the requirements of the South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management - Division of Mining and Solid Waste Permitting – Application for a Mine Operating Permit Form MR-500. Specifically, this planned work will address Section 48-20-90 – “An operator shall submit with his application for an operating permit a proposed reclamation plan”.

Haile Gold Mine Reclamation Plan Summary

The Haile Gold Mine Reclamation and Closure Plan is designed to reclaim land disturbed by mining, overburden disposal, ore processing operations, and associated support facilities to a stabilized condition that will provide for the long-term protection of land and water resources, minimize the adverse impacts of mining, and support the intended post-mining land use. The plan will meet all applicable regulatory requirements. All surface water controls will be designed to withstand the peak flow from the 100-yr, 24-hr storm event.

The plan describes the general reclamation procedures and methods for achieving the final closure requirements and objectives. In addition, the plan serves as a basis for calculating reclamation costs, long-term post-reclamation maintenance and the required financial assurance.

During operations, Haile will take the opportunity to perform aspects of the final reclamation activities concurrent with operations. Concurrent reclamation will be performed on disturbed areas once all planned mining activities in the area are completed and no future mining activity is expected. Final reclamation will commence immediately upon cessation of mining and milling operations. Final reclamation will be completed as soon as practicable after mining activities cease at the facility.

Due to continued exploration success there are unknowns associated with the final configuration of the mine site over 15 years in the future. For this reason, the reclamation and closure plan presented is more conceptual than detailed. As mining activities at the Haile Gold Mine progress, the reclamation and closure plan will be continuously refined and expanded, while adhering to the concepts outlined in this document. Financial assurance will be provided for proposed reclamation and closure activities to ensure that reclamation and closure will not become a financial responsibility of the State of South Carolina.

Overburden Classification

The overburden that will be generated during the development of the Haile Gold Mine will be classified into three categories based on the potential for acid generation. Red overburden contains strongly acid generating material and has the potential to generate low pH and very high metals and sulfate content in contact water. Yellow overburden contains moderately acid generating material and has the potential to generate low pH but low to moderate metals content in contact water. Green overburden is inert to alkaline and could generate moderately low pH with low to non-detectable metals content in contact water, but is expected to meet stormwater requirements.

Reclamation Activities

The reclamation plan will provide stable slopes, manage discharge water quality and establish vegetation over all portions of the mine site except those areas designated as post-closure pit lakes, pit highwalls adjacent to the post-closure pit lakes, and any roads and access areas necessary for post-closure activities and land use(s).

Haile Gold Mine already has good experience and understanding of what vegetation will grow at the site from its historical reclamation successes. However, during the mine operating period Haile Gold Mine will establish vegetation test plots and perform other studies to establish and refine appropriate vegetation species and seeding rates, soil and fertilizer requirements, and overall vegetation procedures to ensure sustainable vegetation post-closure.

The proposed facilities at the Haile Gold Mine fall into seven general facilities types. (1) backfilled pits, (2) unfilled pits (future pit lakes), (3) red/yellow overburden areas, (4) green overburden areas, (5) Haile Gold Mine Creek, (6) tailings storage facility (TSF), and (7) plant site, roads, powerlines, pipelines, and other ancillary facilities. Following is a description of the proposed reclamation activities planned for each type of facility:

Backfilled Pits

Of the seven pits included in the mine plan, four pits, Mill, Haile, Red Hill, and Chase Hill, will be completely backfilled with overburden and a fifth, Snake Pit, will be partially backfilled with overburden. The pits will be backfilled as part of overburden placement during operations after completion of pit development.

Yellow overburden will be placed in the pits up to a level that will ensure this material is permanently inundated with water following the cessation of depressurization pumping, limiting the ability of the material to generate acid rock drainage (ARD). Additional precautions will be taken during fill placement to limit ARD generation prior to inundation. The measures include lime amendment, placement of overburden in lifts, and placement of a saprolite layer on top of yellow overburden. Lime, or other suitable pH buffering material, will be placed concurrently with the backfill. The backfill will be placed in lifts not more than 50 feet thick and the final lift will be capped with a 5 ft layer of saprolite to limit oxygen transport into the overburden pile. Lime addition and saprolite layer construction will be performed as part of normal mine operations.

Green overburden will be placed above the yellow overburden (and above the long term inundation surface) to complete backfilling and promote positive drainage off the pit backfills. During reclamation, the green overburden will be vegetated using established procedures.

Snake Pit will be partially backfilled. As with the other overburden backfill, yellow overburden will be placed below the level that will ensure permanent inundation, amended with lime and sealed with a minimum 5 ft thick saprolite cover layer. Additionally, a minimum 20 foot thick saprolite cover will be placed on the exposed yellow overburden slope of the Snake Pit backfill. This will occur on final backfill slopes below the post mining inundation level. Final slopes will be constructed with alternating benches and angle of repose slopes to have an overall slope of 3H:1V or flatter.

Green overburden will be placed in Snake Pit above the yellow overburden (and above the long term inundation surface). Final slopes will be constructed to have an overall slope of 3H:1V or flatter. Concurrent with placement of the green overburden, the angle of repose slopes will be pushed down to develop inter-bench slopes of 2.5H:1V slopes with surface water controls to limit erosion. During reclamation, the green overburden will be vegetated using established procedures.

Unfilled Pits

Two of the pits, Ledbetter and Small, will not be backfilled during mining or reclamation and will remain as pit lakes. At least one year prior to mine closure, a pit lake study will be performed to predict final water levels and water quality within the pit lake. During reclamation, a security fence and safety berm will be established around the remaining pit highwall. All surface water inlets or outlets to the pit lakes will be improved to limit erosion and control flow into and out of the pit lakes.

Red/Yellow Overburden Areas

One overburden area, Johnny's Overburden Area, will be designated to receive all red overburden and any yellow overburden not needed for the pit backfills. Overburden in this area will be placed on a geomembrane liner and any seepage generated during operations will be collected for treatment. The overburden will be placed in lifts not more than 50 ft high with a minimum 20 foot thick saprolite layer at the outside perimeter. The final lift will be covered with a 5 foot thick layer of saprolite. The final slopes will be constructed with alternating benches and angle of repose slopes to have an overall slope of 3H:1V or flatter. Concurrent with placement of the overburden, the angle of repose slopes will be pushed down to develop inter-bench slopes of 2.5H:1V slopes with surface water controls to limit erosion.

During reclamation, the entire Johnny's Overburden Area will be covered with a geosynthetic liner and a minimum of 2 feet of growth media material. The growth media will be vegetated using established procedures.

Seepage will continue to be collected and treated in the same manner as that used during the operating period. As inflows to the overburden have been effectively eliminated, the seepage from the overburden is expected to decrease significantly over time. Once seepage has been reduced sufficiently, passive treatment cells, utilizing an anaerobic treatment, will be constructed in the lined seepage collection ponds. This passive treatment cell will provide discharge quality water from the overburden area with minimal maintenance requirements. Haile already has good experience and understanding of the use of passive treatment systems at the existing mine.

Green Overburden Areas

An additional seven overburden areas at the Haile are designated to receive only green overburden (James Overburden Area, Hayworth Overburden Area, Hilltop Overburden Area, Red Hill Overburden Area, Haile Overburden Area, 601 Overburden Area, and Ramona's Overburden Area). Overburden in these areas will be placed on a prepared subgrade. All final slopes of the overburden area will be constructed with alternating benches and angle of repose slopes to have an overall slope of 3H:1V or flatter. Concurrent with placement of the overburden, the angle of repose slopes will be pushed down to develop inter-bench slopes of 2.5H:1V slopes with surface water controls to limit erosion. During reclamation, the green overburden will be vegetated using established procedures.

Haile Gold Mine Creek

During mining activities, portions of Haile Gold Mine Creek will be impacted by Ledbetter Pit and Haile Pit development.

Ledbetter Pit will be reclaimed as a pit lake. The creek will be redirected in an engineered channel during operations. After mining ceases, low flows in the creek will continue to flow in the engineered channel and high flows will be diverted into the pit lake. The pit lake will rise to a level that will discharge into Haile Gold Mine Creek downstream of the pit. Once the pit lake reaches its final elevation, Haile Gold Mine Creek will be directed into the lake and will flow through the pit lake. Engineered structures will control creek flow into and out of the lake and the engineered channel will be abandoned at this time.

During mining operations in Haile Pit, Haile Gold Mine Creek and the North Fork Creek will be redirected into engineered channels in a similar manner to that used for the Ledbetter Pit. However, during mining operations the Haile Pit will be backfilled to restore near original topography in the vicinity of these two original drainages such that Haile Gold Mine and the North Fork Creek will be re-established on top of the backfilled pit.

Tailings Storage Facility

The Tailing Storage Facility (TSF) will consist of an above grade lined impoundment, filled with tailing material. A drainage collection system above the lined facility will collect seepage water from the tailings and return it to the impoundment. As the outboard slopes of the TSF achieve final configuration, they will be vegetated using established procedures.

At the cessation of milling, the TSF will be reclaimed using a dry closure approach. In order to dewater the tailing facility, the water treatment plant will be reconfigured to treat the tailings pool and drainage water. Water collected from the underdrains and any remaining free water in the impoundment will be treated in the reconfigured water treatment plant and discharged through the same outfall used during operations.

The upper surface of the tailings will be stabilized using soil fill placed by low ground pressure equipment where necessary. As the surface of the tailings is stabilized and shaped for positive drainage of stormwater, a geosynthetic liner will be placed over the tailings in stages. A minimum of two feet of growth media will be placed over the geosynthetic and the entire area will be vegetated using established procedures.

Once the surface of the TSF has been successfully reclaimed, the perimeter of the tailings facility berm will be opened to allow storm water to freely drain off the covered and reclaimed tailings surface without disturbing the tailings. Surface water controls will be established at the spillway outlet location to prevent the erosion of the embankment during periods of high flow.

Seepage will continue to be collected and treated in the same manner as that used during the closure activities. Once inflows to the tailings have been effectively eliminated, the seepage from the tailings facility is expected to decrease significantly over time as the tailings approach ultimate consolidation. Once seepage has been reduced sufficiently, a passive treatment cell, utilizing an anaerobic treatment, will be constructed in the lined underdrain collection pond. This passive treatment cell will provide discharge quality water from the TSF with minimal maintenance requirements.

Plant Site, Roads, Powerlines, Pipelines, and other Facilities

Other facilities at the mine, including the plant site, growth media stockpiles, sediment and settling ponds, disturbed land, roads, powerlines, pipelines and surface water controls, that are not required for post-closure monitoring or maintenance will be regraded, demolished, salvaged and/or removed as appropriate. All areas will be graded to promote drainage and growth media placed if needed to support vegetation. All disturbed areas will be vegetated using established procedures.

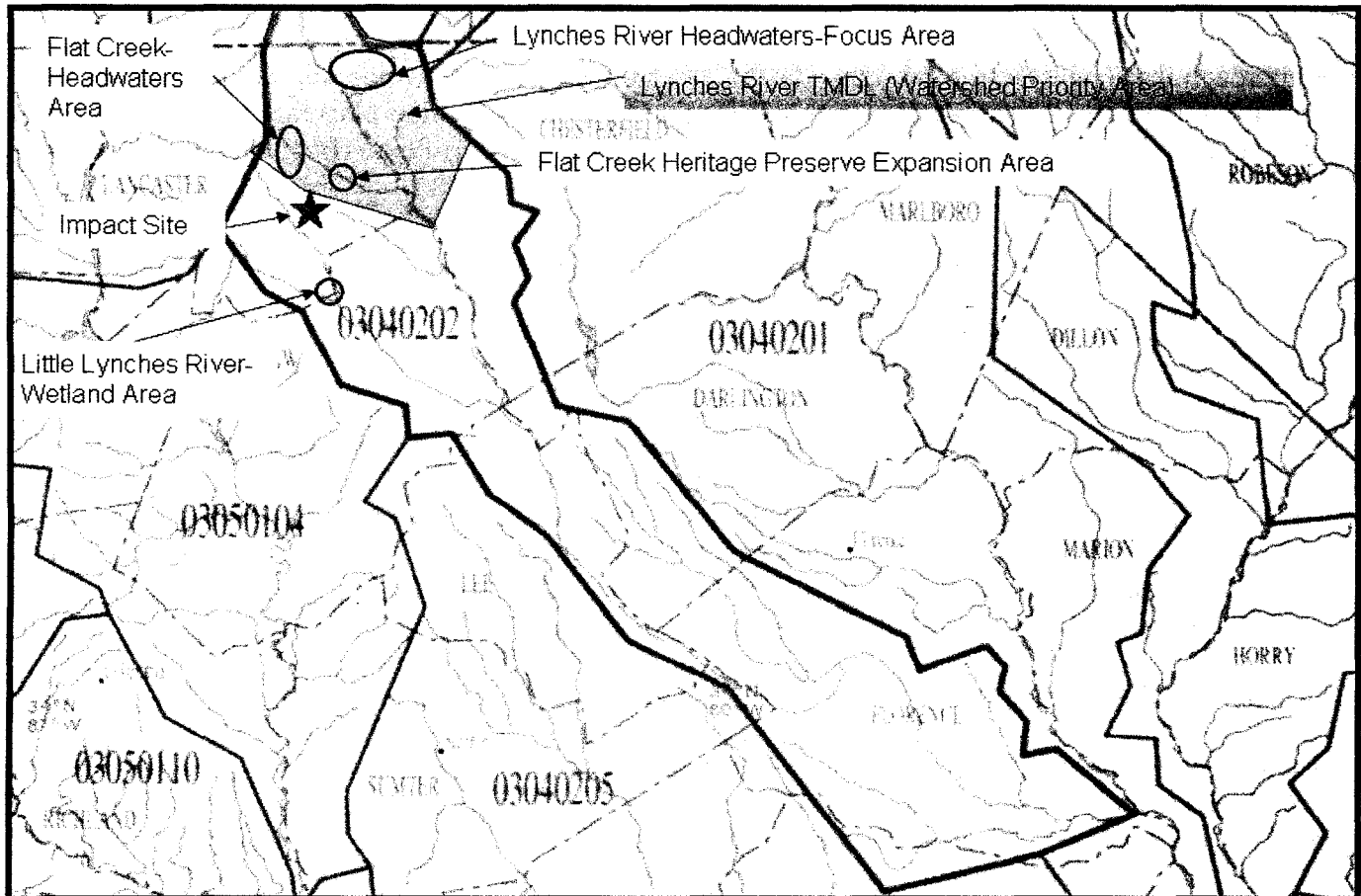
Post-Closure Monitoring

The Haile Gold Mine will require post closure maintenance and monitoring. In addition to general site monitoring and maintenance, passive treatment cells will require replacement approximately every 25 years or as necessary. Ground water and surface water samples will be collected and analyzed. It is anticipated that surface and ground water will be monitored for a period of 10 years following mine closure. The passive treatment cells will require periodic maintenance.

1.4 Site Selection and Site Overview

HGM is proposing to utilize four separate mitigation areas to address the mitigation obligation under the 404 permit. The selection rationale, and a summary of each area, is shown below. The detailed conceptual mitigation plan for each area is provided in the subsequent section of the plan.

Flat Creek Headwaters Mitigation Area (See Section 2, 2A, and 2B for details)

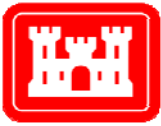


A core conservation strategy is to focus efforts on the Flat Creek watershed, which is located in HUC 03040202-Lynch River and within the Lynch River TMDL area. In the Flat Creek watershed HGM proposes to restore and enhance 14,565 linear feet of stream, and place conservation easements on over 250 acres of riparian buffer protecting approximately 47,150 linear feet of stream, .

The mitigation area proposed is ideal for several reasons. First, it is in the same 8-digit watershed as is the Haile Gold Mine site, which satisfies the USACE requirement for mitigation to be in the same watershed as the impacts. Second, the watershed is small enough, approximately 32,000 acres in size, that the mitigation will have a meaningful uplift on water quality through the efforts under this mitigation plan. Third, Flat Creek is 303 (d) listed and within the Lynch River TMDL area. Finally, the Flat Creek area has been a primary focus area in the Midlands for conservation efforts by The Nature Conservancy (TNC), US Fish and Wildlife Service (FWS) and SC Department of Natural Resources (DNR).

Appendix C

Public Scoping Meeting Notices



U.S. Army Corps of Engineers
Charleston District

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, CHARLESTON DISTRICT

October 14, 2011

PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS
CHARLESTON DISTRICT

PUBLIC SCOPING MEETING
FOR THE
PROPOSED HAILE GOLD MINE PROJECT, LANCASTER COUNTY,
SOUTH CAROLINA
ENVIRONMENTAL IMPACT STATEMENT

TO WHOM IT MAY CONCERN:

Notice is hereby given that the U.S. Army Corps of Engineers, Charleston District has scheduled a public scoping meeting on Thursday October 27th, at the Andrew Jackson Recreation Center, 6354 N Matson St, Kershaw, SC 29067. The public scoping meeting will begin at 5:00PM EDT with an open house and a formal presentation beginning at 7:00PM EDT. Comments will be accepted at the meeting in verbal or written form. The meeting is estimated to adjourn about 9:00PM EDT, depending on the number of participants that provide verbal comments.

The purpose of the meeting is to receive public input concerning the scope and alternatives to be considered in the Environmental Impact Statement (EIS) for the Department of the Army Permit Application # SAC 1992-24122-4IA for the Haile Gold Mine Project, Lancaster County, South Carolina. The Corps is the lead federal agency with the responsibility of evaluating the environmental impacts of the project proposed by the applicant, Hail Gold Mine, Inc. and is preparing the EIS in accordance with National Environmental Policy Act requirements.

The proposed project as described in the permit application which was filed on January 12, 2011, is to reactivate the existing Haile Gold Mine near Kershaw, SC for the development of gold resources, to expand the area for open pit mining, and to construct associated facilities. The Haile Gold Mine Site encompasses approximately 4,231 acres. Mining would occur in phases involving eight open mining pits over a twelve-year period, with pit depths ranging from 110 to 840 feet. The proposed work includes the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation that would impact 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. Construction drawings provided by the applicant were included in the original joint public notice of January 28, 2011, and are available on Charleston District's public website at:
<http://www.sac.usace.army.mil/?action=publicnotices.pn2011>.

The meeting agenda includes staff presentations and a comment session with opportunities for discussions with project personnel. Court reporters will be available to transcribe statements from those wishing to provide verbal comments, or attendees may submit written comments at the meeting



U.S. Army Corps of Engineers
Charleston District

or via email, the website or mail through the end of the official comment period, November 26, 2011. All interested individuals are invited to attend.

Written comments can be submitted in the following ways:

1. At the *Public Scoping Meeting*
2. By email to: Richard.Darden@usace.army.mil
3. On the website: www.HaileGoldMineEIS.com
4. Via mail to: CESAC–RE–P, 69A Hagood Avenue, Charleston, SC 29403.

The deadline for submitting scoping comments is November 26, 2011.

FOR FURTHER INFORMATION CONTACT: For information about this project, to be included on the mailing list for future updates and meeting announcements, or to receive a copy of the draft EIS when it is issued, contact Dr. Richard Darden, Project Manager, by telephone: 843-329-8043 or toll free 1-866-329-8187, or by mail: CESAC–RE–P, 69A Hagood Avenue, Charleston, SC 29403. For inquiries from the media, please contact the Corps, Charleston District Corporate Communications Officer (CCO), Ms. Glenn Jeffries by telephone: (843) 329-8123.

CHARLESTON DISTRICT
U.S. Army Corps of Engineers

Appendix D

Scoping Meeting Displays

**Welcome to the
Public Scoping Meeting
for the
Haile Gold Mine
Environmental Impact Statement**



BUILDING STRONG®

Sign In Table

**Please sign your name and include
your address on the Sign-In Sheet.**



BUILDING STRONG®

Public Outreach

- Website (www.HaileGoldMineEIS.com)
- Public Meetings
- Workshops
- Newsletters
- Other suggestions?

Please let us know how we can best keep you informed by completing a Comment Form at the comment table.



BUILDING STRONG®

Project Purpose

To open and operate an economically viable gold mining operation in the Carolina slate belt region.



BUILDING STRONG®

Project Description

- **Reactivate existing Haile Gold Mine near Kershaw, SC for development of gold resources**
- **Expand the area for open pit mining and construct associated facilities**
- **Haile Gold Mine Site: approx. 4,231 acres**
- **Mining in phases: 8 open mining pits over 12 year period**
- **Pit depths range from 110 to 840 feet**
- **Mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation**
- **Impacts: approx. 161.81 acres of wetlands and 38,775 linear feet of streams**



Public Interest Review Factors

- ☐ Conservation
- ☐ Economics
- ☐ Aesthetics
- ☐ General Environmental Concerns
- ☐ Wetlands
- ☐ Historic Properties
- ☐ Fish and Wildlife Values
- ☐ Flood Hazards
- ☐ Floodplain Values
- ☐ Land Use
- ☐ Historic and Cultural Properties
- ☐ Navigation
- ☐ Shore Erosion and Accretion
- ☐ Recreation
- ☐ Water Supply and Conservation
- ☐ Water Quality
- ☐ Energy Needs
- ☐ Safety
- ☐ Food and Fiber Production
- ☐ Mineral Needs
- ☐ Considerations of Property Ownership
- ☐ Needs and Welfare of the People



Comment Table



BUILDING STRONG®

Appendix E

Public Scoping Meeting Attendees

Last Name	First Name	Address 1	Address 2	City	State	Zip
Anderson	Brent	1858 Catawba River Rd		Fort Lawn	SC	29719
Barnes	Sylvia	3346 Timrod Rd		Bethune	SC	29009
Bartell	Mary	7638 Haile Gold Mine Rd		Kershaw	SC	29067
Bates	Cole	213 Castlewood		Elgin	SC	29045
Beasley	Barry	P.O. Box 1776		Lancaster	SC	29721
Berry	James	4581 Muddauber Rd		Kershaw	SC	29067
Blackhawk	Ned	1816 Greenbriar Dr		Lancaster	SC	29720
Blackman	Margaret	816 Greenbriar Dr		Lancaster	SC	29720
Blackmon	B. Dale	8789 Flat Creek Rd		Kershaw	SC	29067
Blackmon	Justin	8789 Flat Creek Rd		Kershaw	SC	29067
Blackwell	Danny	116 N. Matson St		Kershaw	SC	29067
Blauch	Dave	5672 Jones Dr		Boulder	CO	80301
Blyth	Don	95 Wellington St W, Ste 210	PO Box 55	Toronto, Ontario	Canada	M5J2N7
Bowers	Ruth	P.O. Box 294		Kershaw	SC	29067
Bowers	Peggy	6852 Bowerstone		Kershaw	SC	29067
Brewer	Dr. John	212 S Matson St		Kershaw	SC	29067
Brewer	Clay	212 S Matson St		Kershaw	SC	29067
Bundy	Bob	5449 Tabernacle Rd		Lancaster	SC	29720
Butterfield	Peter	P.O. Box 171		Kershaw	SC	29067
Byrd	Patsy and Bill	1638 Omerbrook Rd		Kershaw	SC	29067
Byrd	Melvin	1311 Field St		Camden	SC	29020
Cantone	Sandra	4260 Duckwood Rd		Kershaw	SC	29067
Carter	L.H.	P.O. Box 428		Heath Springs	SC	29058
Catoe	Dennis	6085 Goldmine Hwy		Kershaw	SC	29067
Catoe	Rex	6001 Flat Creek Rd		Kershaw	SC	29067
Catoe	Wylie	7817 Flatcreek Rd		Kershaw	SC	29067
Catoe	Carol	4260 Duckwood Rd		Kershaw	SC	29067
Cator	Donnie	3719 Jones Cementary Rd		Bethune	SC	29009
Cave	Nancy	P.O. Box 603		Georgetown	SC	29442
Choate	Ben & Mary	2575 Fork Hill Rd		Heath Springs	SC	29058
Christie	Richard	1267 Flint Ridge Rd		Heath Springs	SC	29058
Christie	A.H.	1267 Flint Ridge Rd		Heath Springs	SC	29058
Clark	Catherine			Denver	CO	

Last Name	First Name	Address 1	Address 2	City	State	Zip
Clark	Russell	404 Woodland Dr		Kershaw	SC	29067
Clem	Bill	1506 Scott Rd		Kershaw	SC	29067
Coffin	Lewis	5652 Little Rock		Charlotte	NC	62126
Cooper	Elaine	3105 Dalloz Rd		Columbia	SC	29204
Craig	Richard	P.O. Box 703		Bethune	SC	29009
Croxton	Roy and Judy	7136 Croxton Rd		Kershaw	SC	29068
Croxton	Scott	1389 Kershaw County Club Rd		Kershaw	SC	29067
Dafoe	Bill and Jamie	2425 Hough Rd		Lancaster	SC	29720
Davis	Brian	106 Locke St		Kershaw	SC	29067
Deligiannidis	Gus	401 W Chruch St		Kershaw	SC	29067
Descherer	Chris	43 Broad St	Ste 300	Charleston	SC	29401
Dulin	James	6988 Snowy Owl Rd		Kershaw	SC	29067
Duncan	Theresa	5124 New Jersey St		Kershaw	SC	29067
Edinger	Paul	2475 Dhec Rd		Lancaster	SC	29720
Estridge	Jack	7464 Old Jefferson Hwy		Kershaw	SC	29067
Faile	Curtis	3559 Mining Rd		Kershaw	SC	29067
Faulkenberry	Jay	P.O. Box 114		Kershaw	SC	29067
Faulkenberry	Karen	4689 Haile Gold Mine Rd		Kershaw	SC	29067
Faulkenberry	Ken	3022 Mulberry Ln	PO Box 446	Kershaw	SC	29067
Faulkenberry	Larry	229 Joseph Kershawn Rd		Eastover	SC	29044
Ferral	Pam	411 Hampton St		Camden	SC	29020
Fersner	Bryant	115 N Matson St		Kershaw	SC	29067
Finklin	Leon and Linda	4011 Ensor Ave		Columbia	SC	29203
Gardner	Richard	9800 Flatcreek Rd		Kershaw	SC	29067
Gardner	Miles	4422 Miles Gardner Rd		Kershaw	SC	29067
Gillon	Ken	18 Amber Dr		Horse Shoe	NC	28742
Gochmour	Lee Pat	P.O. Box 4430		Parker	CO	80130
Green	Val	81 Hwy 215 N		Blair	SC	29015
Greenlaw	Pamela	1001 Wotan Rd		Columbia	SC	29229
Gregory	Lanny and Cathy	2499 W Newcastle Rd		Florence	SC	29501
Grooms	Angie	750 Eastway St		Davidson	NC	28036
Grooms	Joe			Davidson	NC	28036
Hagen	Kim	1040 Arbor Dr		Kershaw	SC	29067

Last Name	First Name	Address 1	Address 2	City	State	Zip
Hendrix	Genny	680 Discovery Rd		Kershaw	SC	29067
Hendrix	Palmer	215 W Stevens Dr		Kershaw	SC	29067
Hinson	Sheila	263 Asgill Ln		Kershaw	SC	29067
Horton	Gary	P.O. Box 296		Heath Springs	SC	29058
Horton	Donald	361 East St		Heath Springs	SC	29058
Horton, M.D.	Ira and Anne	1600 Franke Dr	Apt 210	Mt. Pleasant	SC	29464
Jenkins	Bill and Carol	225 Sweetbay Lane		Orlando	FL	32835
Jenkins	Bill	225 Sweetbay Ln		Orlando	FL	32835
Jones	Stephen	1072 Arbor Dr		Kershaw	SC	29067
Jones	Ralph	1187 Arbor Dr		Kershaw	SC	29067
Jones	Ralph	1187 Arbor Dr		Kershaw	SC	29067
Jones	Stephen	1072 Arbor Dr		Kershaw	SC	29067
Jones, M.D.	W. Bill	104 Heartstone Ln		Grenville	SC	29615
Kennedy	Craig	664 Townes Rd		Columbia	SC	29210
Kuipers	Jim	P.O. Box 145		Wisdom	MT	59765
LeGrande	Jeff	7744 Flat Creek Rd		Kershaw	SC	29067
Lewis	Derrick	446 Colonial Ave	Apt C	Lancaster	SC	29720
Lucas	Odell	309 W Welch St		Kershaw	SC	29067
McDonald	Terry	6988 Snowy Owl Rd		Kershaw	SC	29067
McDow	Sue and W.L.	209 Park Dr		Kershaw	SC	29067
McIlwain	Bill & Mary	3204 Mineral Springs Rd		Lexington	SC	29073
McLeod	Jim	P.O. Box 612		Camden	SC	29021
Merck	Michael	125 Meadow Wood Dr		Lexington	SC	29073
Mobley	Reid	410 Waccamaw Ave	Apt 1	Columbia	SC	29205
Moore	Steve	1781 Clark Hills Circle		Joans Island	SC	29455
Morgan	Sandra	204 Fairhill Rd		Heath Springs	SC	29058
Morris	Jack	4031 S Cove Ln		Belmont	NC	28012
Morton	Lentz	206 Clark St		Kershaw	SC	29067
Moseley	Steven	2475 Dhec Rd		Lancaster	SC	29720
Nation	Lisa					
Newman	Sally	43 Broad St	Ste 300	Charleston	SC	29401
Nielsen	Bryce	1538 Kent Dr		Lancaster	SC	29720
Payne	Mildred	4765 Payne Road		Kershaw	SC	29067

Last Name	First Name	Address 1	Address 2	City	State	Zip
Pittman	David & Jeanette	5967 Gold Mine Highway		Kershaw	SC	29067
Pittman	Willis	4550 Cooper Rd		Kershaw	SC	29067
Poston	Al	393 Youngs Bend Rd		Kershaw	SC	29067
Presser	Joel	2019 Red Maple Rd		Kershaw	SC	29067
Price	Jennifer	3637 Cold Springs Rd		Concord	NC	28025
Quigley	Terrence	P.O. Box 843		Colbert	GA	30628
Rabon	William	6214 Hunter Ave		Charlotte	NC	28262
Rabon	Mary	6214 Hunter Ave		Charlotte	NC	28262
Reader	Gary	4007 Tillingmere		Matthews	NC	28104
Reynolds	Annisa	4662 Haile Gold Mine Rd		Kershaw	SC	29067
Rhodes	Wayne	174 Blackmon Circle		Kershaw	SC	29067
Richardson	Ralph	264 Holiday Rd		Lancaster	SC	29720
Ridout	Stan	15636 S 7th St		Phoenix	AZ	85048
Ritchie	Gary	5113 Ernest Scott Rd		Kershaw	SC	29067
Ruhe	Mike	10015 Hazelview Dr		Charlotte	NC	28277
Russell	Kevin	7823 Haile Gold Mine Rd		Kershaw	SC	29067
Russell	Morris	101 Blackmon Circle		Kershaw	SC	29067
Rutledge	Jean	5307 Ernest Scott Rd		Kershaw	SC	29067
Schaeffner	Sean	1363 Rollinghills Rd		Ridgeway	SC	29130
Shields	Brenda	3927 Woodworth Rd		Brookhaven	PA	19015
Sims	James & Diane	7071 Estridge Ave		Kershaw	SC	29067
Smith	Lawyous and Alfreda	802 New York Ave		Kershaw	SC	29067
Sowell	Gary	3516 Kershaw Camden Hwy		Kershaw	SC	29067
Stacy	David	597 E Dalton Ridge		Duncan	SC	29344
Stalugy	David	2470 Country Club		Lancaster	SC	29720
Starnes	Tony	P.O. Box 145		Kershaw	SC	29067
Sutton	Russell	6005 Flatcreek Rd		Kershaw	SC	29067
Thompson	Thomas and Connie	8768 Flatcreek Rd		Kershaw	SC	29067
Timberlake	Ann	105 S Gregg		Columbia	SC	29205
Truesdale	Vic	1350 Flint Ridge Rd		Heath Springs	SC	29058
Tucker	George	1517 Clay Hills Dr		Rock Hill	SC	29730
Tunnell	Keith	210 West Gay		Lancaster	SC	29721
Vejdani	Vivianne	1000 Assembly St		Columbia	SC	29201

Last Name	First Name	Address 1	Address 2	City	State	Zip
Ware	Ethan	12021 Main St	Ste 1800	Columbia	SC	29201
Wickens	Jim	6889 Taxahaw Rd		Lancaster	SC	29720
Wilgins	Randy	604 Green St		Camden	SC	29020
Williams	Sarah	408 Chewning St		Camden	SC	20920
Williams	Joe	680 Countplace		Kershaw	SC	29067
Williams	Roland	4637 Haile Gold Mine Rd		Kershaw	SC	29067
Williams	Stephen	7457 Old Jefferson Hwy		Kershaw	SC	29067
Williams	Lisa	7457 Old Jefferson Hwy		Kershaw	SC	29067
Williams	Kent and Amanda	7449 Old Jefferson Hwy		Kershaw	SC	29067
Willis	Steve	522 Briarwood Rd		Lancaster	SC	29720
Wolfe	Morgan	2274 Ashley River Rd		Chaleston	SC	29414
Wylie	Robert	P.O. Box 1491		Davidson	NC	28036
Yasinsac	Andy	236 Loch Dr		Columbia	SC	29229
Zuzulock	Sarah	2050 Fairway Dr	Ste 203	Boxeman	MT	59715
	Louis	588 Tones		Kershaw	SC	29067

Appendix F

Transcript of Public Scoping Meeting

1 State of South Carolina)
 2 County of Kershaw)
 3 Proposed Hai le Gold Mi ne Publi c) Transcript
 4 Meeting,)
 5) of
 6)
 7 _____) Publi c Meeting

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11 The wi thi n publi c meeting was taken before
 12 Ami nah R. Hardy, RPR, commencing at the hour of 7:01
 13 p.m. , Thursday, October 27th, 2011, at the Andrew
 14 Jackson Recreational Center, 6354 North Matson Street,
 15 Kershaw, South Caroli na.

16

17 Reported by
 18 Ami nah Hardy, RPR

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1 P R O C E E D I N G S
 2 LTC. CHAMBERLAYNE: All right. Good evening. Looks
 3 like -- is there anyone in Kershaw that's not
 4 here? Well, I'd like to welcome you all here,

5 but first I think it's appropriate if we all
6 start here with the Pledge of Allegiance. Please
7 join me in reciting the Pledge of Allegiance.

8 (Pledge of Allegiance recited.)

9 All right. Thank you. Again, good evening
10 and welcome. Very well attended. Excellent
11 facility here. I really want to thank the Town
12 of Kershaw here. And the sheriff's office here
13 from Lancaster County. The Haile Gold Mine
14 security. Doing a great job out in the parking
15 lot. The facility is a great venue and is
16 excellent for what we're trying to do here
17 tonight.

18 Want to thank you for coming out here and
19 participating in this public scoping meeting.
20 I'm Lieutenant Colonel Ed Chamberlayne and the
21 commander and district engineer of the Charleston
22 District U.S. Army Corps of Engineers. For the

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1 record, let me state this meeting is starting at
2 7:00 p.m. -- 1900 in military time -- on
3 October 27th, 2011, at the Andrew Jackson
4 Recreation Center here in Kershaw.

5 As a courtesy to all here, I kindly request
6 that you please turn off, silence your cell
7 phones. Conner, am I good? Yeah? There we go.
8 But please silence your cell phones, avoid any
9 disruptions. I promise I've done it myself.

10 I'd like to begin by introducing several

11 members of the project team here. From the Corps
12 of Engineers in my district, the Charleston
13 district, I've got Ms. Tina Hadden here, the
14 chief of our regulatory division. We got
15 Mr. Travis Hughes, who's my deputy in the
16 regulatory division and chief of my special
17 project branch. Travis, where are you? You
18 hiding? There he is in the back.

19 I've got Dr. Richard Darden, who's the
20 special projects branch chief and the Corps of
21 Engineer project manager for this project. And
22 this is Sean McBride, my corporate communications

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1 office specialist that's here tonight, also known
2 as public affair. Got my executive secretary,
3 Ms. Skinner, up front that you saw as you came in
4 the office. And I've got James Choate here in
5 our office of counsel here in the back. From our
6 contracting team from our third-party contractor,
7 Cardno ENTRIX, I've got Paul Leonard, the project
8 manager, that's working with us to prepare the
9 environmental impact statement that we'll talk
10 about here in a minute. I've got Ms. McLane
11 Evans, who is the deputy project manager for
12 Cardno ENTRIX. And then lastly -- and this is
13 Peter Thibodeau who's the task leader at
14 Cardno ENTRIX. In addition to these individuals,
15 you may have met and spoken with other team
16 members as well as studied various project

17 information displays in both the rooms that we
18 set up here between ourselves and Haile Gold
19 Mine, Incorporated.

20 This evening's meeting will begin with what
21 I'm doing right now, the introductions, and then
22 I'll have my chief of regulatory, Ms. Tina

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5

1 Hadden, come up and explain the Corps'
2 authorities and how we're involved in this
3 process and some of the technical aspects of the
4 process that we're going to go through tonight.
5 Next we'll talk to Richard Darden, who I
6 introduced as our project manager for this
7 effort. He will come up and explain some of the
8 specifics of this project and informational needs
9 that we currently have. Following Dr. Darden
10 will be Mr. Jim Arnold with the Haile Gold Mine,
11 Incorporated, will come up and present his
12 company's views on this project. Then I'll come
13 back and give you some of the ground rules for
14 the public participation of the -- majority of
15 why we're all here tonight, of how the ground
16 rules work, that important part.

17 Many of you may be wondering why the U.S.
18 Army Corps of Engineers is involved in this
19 project. In January 2011, the Haile Gold Mine,
20 Incorporated, submitted a permit application to
21 the Corps of Engineers to reactivate and operate
22 a gold mine here in the city of Kershaw in

1 Lancaster County, South Carolina. In order to
2 operate this mine, Haile will have to -- to
3 assess an impact -- to our understanding, impact
4 of the areas which are subject to the
5 jurisdiction of the U. S. Army Corps of Engineers
6 under the Clean Water Act. Therefore, they will
7 need a permit from my office before they begin
8 with the mining activities.

9 The benefits from this project must be
10 carefully weighed against the detriments of this
11 project, and the final decision that comes from
12 me whether to issue the permit will be determined
13 by the outcome of this process. In addition to
14 the Clean Water Act requirements, the process we
15 use to evaluate impacts of this project is called
16 a National Environmental Policy Act or an NEPA.
17 So if you hear us saying NEPA, that's what we're
18 talking about. After the meeting, Ms. Hadden
19 will give you more specifics in this process in
20 just a minute.

21 This tool that we're using to document the
22 process and the process impacts is called the

1 environmental impact statement, or EIS. The
2 Corps is ultimately responsible for the content
3 of the EIS, but we direct the third-party

4 contractor, Cardno ENTRIX -- I've already
5 introduced some of the folks -- we task them to
6 assimilate the data and prepare the document,
7 this EIS document. However, while Cardno ENTRIX
8 is fully accountable to the U.S. Army Corps of
9 Engineers, they are paid for by Haile Gold Mine,
10 Incorporated.

11 Please keep in mind that the Corps, U.S.
12 Army Corps of Engineers, is not proposing to
13 construct or operate a gold mine. We are clearly
14 a federal permit agency only. We are neither for
15 nor against this project. We are neutral
16 administrators of the law. We have a permit
17 decision to make on this application, and your
18 input is essential, absolutely essential, to
19 ensure that our decision is fair and balanced.
20 That is the sole reason that we are all here
21 tonight. The main purpose of this meeting is for
22 me, district engineer of the Charleston district,

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1 to solicit your input.

2 (Audio technical difficulties were encountered.)

3 You want to switch me out?

4 (A discussion was held off the record.)

5 LTC. CHAMBERLAYNE: The main purpose of this meeting
6 tonight is for me to listen to your input. This
7 is not a question-and-answer session. Because
8 it's really too early in the process, and I also
9 don't have all the answers to give you. It's a

10 formal opportunity for me to listen to your
 11 concerns, your issues, and any statements that
 12 you have to make. And since this is your
 13 opportunity to provide the comments to the Corps,
 14 you should address your comments to me, not the
 15 audience.

16 I have a court reporter here this evening,
 17 Aminah, here in the corner, here to ensure that
 18 no one's comments go unheard.

19 This soliciting session or scoping meeting
 20 is the very first set in the NEPA process. Over
 21 the next year or so we will proceed to other
 22 steps that's required by NEPA, which will

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1 ultimately answer your questions and conclude
 2 with the permit decision. Tonight's scoping
 3 meeting is one of several opportunities
 4 throughout this process that will ensure the
 5 public is heard and your input is considered. We
 6 want you to actively participate in this process.
 7 First, you can attend the scoping meetings and
 8 future public meetings such as this. Second, you
 9 may visit our public website, which is projected
 10 here right in front of you, and it's on most of
 11 the pamphlets and the printed material that we've
 12 handed out tonight, but again, it's the
 13 haillegolmineEIS.com website. On this website,
 14 you have the opportunity to communicate directly
 15 with the project team via e-mail or print out a

16 copy of the comment form, which you can mail to
17 us.

18 As you came in tonight, we gave you a
19 wallet-sized business card which contained our
20 mailing address. We are looking at other ways to
21 communicate with you and encourage you to take
22 advantage of the opportunity and to suggest other

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1 communication methods that work for you. Please
2 let us know how you want to be best kept
3 informed. All forms of communication have equal
4 weight, both speaking, electronically, mail,
5 whatever. Your input and participation are
6 essential to this process.

7 As you came in tonight, you should have
8 received a registration card. Please ensure that
9 you fill out the registration card and return it
10 to our personnel, Narissa, and other people that
11 are manning the front desk. These cards will aid
12 in the way that we conduct tonight's meeting.
13 The information on those cards will also be used
14 as a record that you attended. In addition, we
15 will add you to the mailing list so that you are
16 best kept informed and advised as the process
17 continues. You're also being advised of the
18 progress of the environmental impact statement,
19 the permit review process, and any other future
20 public meetings that will be planned or held.

21 The main purpose of this card's use tonight
Page 8

22 is to call on those individuals that indicated

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1 they wish to speak this evening. If there's
2 anyone present who did not receive one of these
3 cards, look like this, did not receive one of
4 these cards and you would like to speak tonight,
5 please raise your hand and we'll get one to you.
6 If not, I got plenty and we'll use those. But
7 again, I want to assure you that all forms of
8 communication have equal weight, so you can
9 speak. You can submit comments. It's all the
10 same. This evening's meeting is an opportunity
11 for the public to participate in the development
12 of the environmental impact statement. We want
13 to know what the issues are, from your
14 perspective, need to be considered in the EIS.

15 I would now like to introduce Ms. Tina
16 Hadden, our chief of the regulatory division, to
17 provide you with a brief overview of the
18 environmental process that we'll be using and
19 following for this project. Ms. Hadden.

20 TINA HADDEN: Hi. Thanks, Colonel Chamberlayne. Can
21 everyone hear me? As Colonel Chamberlayne said,
22 my name is Tina Hadden, and I am chief of the

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1 regulatory division for the U.S. Army Corps of

2 Engineers Charleston district. In general, the
3 Corps' regulatory program regulates impact to our
4 nation's waters and wetlands. Its mission is to
5 protect the nation's aquatic resources while
6 allowing reasonable development through fair,
7 flexible, and balanced permit decisions.

8 The Corps's jurisdiction to issue or deny a
9 permit for this project is pursuant to the Clean
10 Water Act. Specifically, section 404 of the
11 Clean Water Act authorizes the Corps to issue or
12 deny a permit for discharges of dredge or fill
13 material into waters of the United States,
14 including streams and wetlands like those
15 proposed in this application.

16 Our decision to either issue or deny this
17 application will be based on several things. One
18 in particular is a set of guidelines that were
19 established under the authority of section 404 of
20 the Clean Water Act. These guidelines are
21 commonly referred to as the 404(b)(1) guidelines.
22 In addition, our decision will be based on what

1 we call the public interest review, which is an
2 evaluation of the impacts that a project may have
3 on the public interest. There are 21 public
4 interest factors that must be carefully
5 considered. Some of these factors are economic,
6 fish and wildlife values, land use, safety,
7 aesthetics. There's a full list of those factors

8 in the tri fold handout that you received tonight.
9 The benefits from the project must be carefully
10 weighed against the detriments of the project.
11 And the final decision whether to issue a permit
12 will be determined by the outcome of this
13 balancing process.

14 In order to assure that there is consistency
15 among all federal agencies, the National
16 Environmental Policy Act, referred to as NEPA,
17 was passed in 1969. Based on this federal law,
18 when any and all applicants apply to the Corps of
19 Engineers for a permit, the Corps will evaluate
20 the application in accordance with the policies
21 and procedures that are established in the Act.
22 It is the basic national charter for the

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1 protection of the environment and contains
2 provisions to ensure that federal agencies -- in
3 this case, the Corps of Engineers -- carry out
4 the policies of the act in accordance with both
5 the spirit and letter and intent of the law.

6 When NEPA was passed, it also required the
7 establishment of the Council on Environmental
8 Quality or CEQ. The CEQ then issued a set of
9 regulations that implemented the act. These
10 regulations instruct federal agencies on what
11 they need to do to comply with the process and
12 procedures outlined in the law itself.

13 The process that is outlined in the CEQ

14 regulations is referred to as the NEPA process.
15 There is a brief outline of this process in the
16 tri fold handout you received tonight. This
17 process is intended to help public officials --
18 in this case, the Corps of Engineers -- make
19 decisions that are based on an understanding of
20 the environmental consequences of a proposed
21 project and ultimately to guide federal actions
22 that will protect, restore, and enhance the

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1 environment. Of course, these environmental
2 consequences must be documented. Therefore, NEPA
3 requires that this documentation be in the form
4 of one or two ways, an environmental assessment
5 or an environmental impact statement. Both of
6 these documents must identify and evaluate the
7 issues that are truly significant to the proposed
8 project and must look at alternatives to a
9 proposal to determine if there is an alternative
10 that would have less impact on the environment.
11 As you might expect, an EIS is more in depth than
12 an environmental assessment.

13 As Colonel Chamberlayne indicated, the Corps
14 has already determined that it will prepare an
15 EIS for this project. The EIS will be prepared
16 in two stages, a draft EIS and a final EIS. Both
17 of these documents will be circulated for public
18 comment, and a public hearing will be held
19 following circulation of the draft EIS.

20 Ultimately, when the Corps is prepared to make a
21 final decision on this application, we will
22 prepare what is called a record of decision.

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1 Certainly the EIS will document the impacts of
2 the proposed project and contain all the
3 information and analysis that the district
4 engineer will use in reaching his permit
5 decision, but the record of the decision will
6 document the district engineer's decision on the
7 application itself. Since the U.S. Army Corps of
8 Engineers cannot dictate where Haile Gold Mine
9 constructs a mine, the district engineer's
10 decision will be to either, one, issue the permit
11 for the project as proposed; two, deny the
12 permit; or three, issue the permit with special
13 conditions.

14 In conclusion, let me say that I recognize
15 that the NEPA process and all of our regulations
16 may not be familiar to you, but please keep in
17 mind that this is meant to be a public process.
18 And as such, your participation is not only
19 welcome, it is essential. Before the Corps of
20 Engineers can make a decision or even begin to
21 prepare this document, we need your input. I'm
22 going to ask Dr. Richard Darden to come up and

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17

1 provide you with a brief overview of the project
2 and give you more guidance on the type of input
3 that we truly need from you. Thank you very
4 much.

5 DR. RICHARD DARDEN: This microphone's taller than me.
6 Well, thank you and good evening, everyone. I am
7 very happy to see a good turnout this evening. I
8 ended up meeting a number of people that I've
9 spoken to by phone over the last several weeks to
10 sort of put the face with the name of people that
11 I've spoken with. And I hope to meet more of you
12 in the coming process.

13 I would like to spend the next few minutes
14 providing you with some general information about
15 the project that's described in the Haile Gold
16 Mine federal permit application. The proposed
17 project is to construct and operate a gold mine
18 in order to extract and process gold from the
19 Haile ore body in wetlands and streams associated
20 with Haile Gold Mine Creek near the city of
21 Kershaw in Lancaster County, South Carolina.
22 Construction and operation of the proposed mine

1 facility would involve the excavation and filling
2 of approximately 162 acres of wetlands and 38,775
3 linear feet of stream.

4 According to the application, phased mining
5 will take place -- sorry -- over -- utilizing a
6 total of eight open pits over a 12-year period.

7 The proposed pits would range in depth from
 8 110 feet to 840 feet. In each pit, the surface
 9 layer would be removed and stockpiled for use
 10 during reclamation activity. Next, a layer of
 11 rock overlying the ore body would be removed.
 12 This material is referred to as overburden and
 13 will be stockpiled for use in backfilling pits.
 14 Once the overburden is removed, the ore itself
 15 will be mined using 6-inch diameter bore holes,
 16 explosives, and wheeled loading equipment to load
 17 100-ton capacity off-road mining trucks. Ore
 18 will be processed in on-site mining facilities.
 19 The milling process uses sodium cyanide to
 20 extract and separate gold from other minerals.
 21 Following extraction of gold, the remaining
 22 material, which is referred to as tailings, will

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19

1 be treated to maintain a pH between 8.0 and 8.5
 2 and a concentration of less than 50 parts per
 3 million sodium cyanide. For a point of
 4 reference, the pH of drinking water ranges from
 5 around 6 to 8 pH. And for reference in terms of
 6 parts per million, one part per million is
 7 equivalent to one part in 1 million parts, which
 8 is -- in my mind, they're easily visualized as
 9 the equivalent of putting about four drops of ink
 10 in a 55-gallon barrel of water. So one part per
 11 million is a low concentration. In this
 12 particular case, the threshold that's described

13 as 50 part per million would be oh, about, 200
14 drops of ink in a 55-gallon barrel of water.
15 The tailings that are generated would be
16 pumped to a 600-acre tailing storage facility,
17 and once mining ceases, the tailing storage
18 facility will be encapsulated with a geosynthetic
19 material covered by a minimum of 2 feet thickness
20 of topsoil which is stockpiled from the pit
21 excavation itself. According to their permit
22 application, any water leaching from the tailing

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1 storage facility will be monitored and treated
2 prior to discharge into the Little Lynches River.

3 These figures I have mentioned are based on
4 construction drawings that were provided by Haile
5 Gold Mine as part of the permit application and
6 were included in our original public notice,
7 which was issued on January 28, 2011. It's
8 available on our website and the Haile Gold Mine
9 EIS website that we've established for this
10 project. The web address is printed on just
11 about everything you've seen today because we
12 want desperately to make sure that no one is
13 confused about how to get hold of information
14 that we want to make publicly available.

15 So I've just mentioned to you the estimated
16 wetland impact calculations that appeared in the
17 permit application and in our public notice.
18 Certainly the scope of the project goes beyond

19 the direct impacts to wetlands on the proposed
20 site. I think you can best assist the Corps of
21 Engineers in determining the comprehensive scope
22 of this project if your comments to us this

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1 evening or later in writing, if you choose, would
2 help us understand some of the following
3 questions. For example, what are the potential
4 impacts of the proposed project? What is the
5 scope of the EIS that we should study? Are there
6 any potential alternative mining strategies,
7 locations, layouts, and mining construction and
8 operation methods available that may have fewer
9 impact to the natural or to the human
10 environment? In what ways do you foresee the
11 proposed project affecting you, your community,
12 and/or the environment? Are there methods of
13 communication which the Corps has not considered
14 that could keep you better informed on the permit
15 application and EIS process? And finally, what
16 criteria should the Corps utilize to chose which
17 alternatives should be fully assessed in the EIS?
18 So these are the types of questions that we think
19 would be most helpful if they were addressed by
20 you in spoken comments or written comments this
21 evening.

22 I want to reiterate how incredibly important

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1 your participation in the process, not just this
2 evening but throughout the EIS process is to us,
3 and I want to thank you for turning out this
4 evening and any help that you need to provide us
5 in the future. Thank you very much.

6 LTC. CHAMBERLAYNE: Sorry, I'm still moving. Okay.
7 Again, I appreciate your comments, Dr. Darden.
8 At this time, I'd like to allow the Haile Gold
9 Mine, Incorporated, as the permit applicant the
10 opportunity to describe the proposed project to
11 all of you. Representing the Haile Gold Mine,
12 Incorporated, will be Mr. Jim Arnold, chief
13 operations officer for Haile Gold Mine. Please
14 understand Mr. Arnold's comments represent the
15 view of his company and do not necessarily
16 reflect the views of the U.S. Army Corps of
17 Engineers; however, we felt it was very important
18 to allow Haile the opportunity to provide their
19 views to all of you.

20 Mr. Arnold? No? And it's -- should be
21 retracted. It will be Ms. Diane Garrett, chief
22 operating officer of Romarco? Am I saying it

♀

1 right? Sorry, the script changed, so please --
2 Ms. Diane Garrett. Yeah, up here, please.

3 MS. GARRETT: Good evening. I'm Jim Arnold.
4 (Laughter.)

5 Chief operating officer for Romarco. It's
6 great to see everybody here. Lot of familiar
7 faces. Really appreciate the turnout and having
8 everybody here. I want to thank the Corps of
9 Engineers for their attention to this project.
10 We look forward to working very closely with you
11 and the other agencies in working through this
12 EIS project.

13 The support from the community has been
14 overwhelming for us. We just want to say thank
15 you very much for the support that you've shown
16 us the last four years we've been here within
17 your community. We feel like we're already very
18 much a part of it. We are confident that this
19 EIS, environmental impact statement, will address
20 the possible environmental concerns that you may
21 have, and we look forward to being able to answer
22 all those questions and concerns throughout this

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24

1 process.

2 A couple of key highlights that I just want
3 to address very briefly before we get on the rest
4 of the evening. Modern-day mining techniques
5 these days actually work to protect the
6 environment. The mine (inaudible) that are going
7 to be used at Haile are going to be
8 state-of-the-art. This will be a facility that
9 people will look to and say, this is how you do
10 mining. For us in the mining industry, we are

11 very much about protecting the environment. This
 12 is who we are as a team. This is what our
 13 culture is. We have hired some of the very best
 14 of the industry who have built dozens of mines
 15 around the world. They do it with safety and
 16 environmental economic. That's what we do as a
 17 company. We will be going above and beyond what
 18 the regulations require in some areas to further
 19 protect the environment and safety.

20 Safety and environment are number one for
 21 us. This is our environment too. We all live
 22 here as well. And we look forward to hopefully

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1 bringing the gold mine back into production to
 2 this area. We have a long history of gold
 3 mining. Many of you have a long history yourself
 4 of connections to the gold mine itself and to the
 5 property. And we believe we're going to be
 6 leaving this property in a much better position
 7 and condition when we complete the mining
 8 activities.

9 We've spent millions of dollars to date on
 10 baseline studies and all the engineering studies
 11 on this property. Since the day we arrived,
 12 we've been monitoring the water quality. We do
 13 it today, we do it constantly. We'll be doing it
 14 throughout the life of mine project, and we are
 15 required to monitor the water quality every 15
 16 years after the mining slows. We've been doing

17 environmental studies since day one, but Haile
18 with all of its history of mining has a
19 tremendous amount of baseline data. So we have a
20 lot of information in the past to throw up on to
21 go forward through this process.

22 As I mentioned, we will be meeting all water

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1 quality standards. We will meet the
2 environmental regulations that are incumbent upon
3 mining companies. These are things that are
4 familiar to us. We've done it many, many times.
5 Our team has a very strong track record of
6 success in environmental excellence. We will be
7 using a diluted cyanide solution. The difference
8 between what we'll be doing and what our
9 predecessors have been doing is simply our
10 cyanide solution will be in closed containers,
11 which will then be housed within a secondary
12 containment, 110 percent capacity of the first.
13 This is just an extra measure for protecting the
14 environment.

15 Once we extract the gold from the rock
16 through the diluted cyanide solution, the
17 leftover rock, which we refer to as tailings,
18 will go out to the tailings facility area, but
19 first it will pass before a cyanide destruction
20 circuit. Cyanide is very easy to kill.
21 Sunlight, oxygen will kill it. It will go
22 through this destruction circuit before that rock

1 passes out to the tailings facility. So we'll be
 2 doing everything we can to further protect the
 3 environment through some of the things that we
 4 will be putting into the facility itself, and we
 5 will be keeping that water-associated cyanide
 6 within our closed contained environment.

7 I talked about safety and environmental
 8 being part of (inaudible). I cannot stress that
 9 enough. It's something that's on our minds every
 10 single day, and we take it very, very seriously.
 11 I would ask you to also look at our website,
 12 which is the parent company which owns Hail e Gold
 13 Mine, Romarco.com. We also have the
 14 hail e gold mine.com and certainly the contractor at
 15 hail e gold mine EIS.com. And look at some of the
 16 projects we worked on before and you can see our
 17 team.

18 We have a commitment to this community.
 19 Since the day one we came in here, we said we're
 20 going to hire local. We're going to buy local.
 21 We're going to demonstrate our commitment,
 22 because that's who we are as individuals in our

1 industry. We demonstrated that commitment. We
 2 have 126 employees today and 30 contractors, and
 3 the overwhelming majority are right here from

4 this area. We do buy locally. I think a lot of
5 y'all know that. And we do get very engaged in
6 the community from education needs to
7 humanitarian needs, and we look forward to
8 continuing to work with you. It's been a great
9 opportunity for us to be here as a part of you.

10 We plan to hire about 500 workers when we
11 get into the construction phase. Once we are in
12 sustaining operations, we'll have about 250
13 employees full-time with the possibility of
14 another 50 to 80 contractors. The goal of our
15 mine is that one job created on the site will
16 generate at least four to five additional jobs
17 within the community to support those activities,
18 and I think many of you have already seen that in
19 the town of Kershaw itself just in the activities
20 that we have here.

21 We do want to leave a legacy to this
22 community, and many of you were (inaudible) our

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1 Kershaw Minerals Lab. I don't know how many of
2 you were aware or heard during that tour, but
3 that is not just a minerals lab for our purposes.
4 We will be using it for our purposes. But when
5 it becomes accredited, I think within the next
6 year and a half or so, a full accredited lab, it
7 will be the only accredited lab on the East Coast
8 of the United States. And we'll be able to
9 handle all minerals processing, whether it's from

10 Canada or South America or wherever. Right now,
 11 mining companies all send their mineral -- their
 12 (inaudible) material to Nevada or Alaska,
 13 Colorado. So this will be the only certified lab
 14 on the east coast. Just one way we demonstrate
 15 leaving our legacy and something that this town
 16 can build upon in the future.

17 So I want to thank you again for being here.
 18 That's all that I have to say. I hope you visit
 19 our team. Invite you to see our website. And
 20 thank you again.

21 LTC. CHAMBERLAYNE: Okay. Thank you, Ms. Garrett. I
 22 got it straight.

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1 Before we begin the public comment portion
 2 of this evening, I'd like to go over some of the
 3 ground rules for making your public comments. We
 4 have three seats reserved at each microphone.
 5 You see the reserved signs in yellow. When I
 6 first start here, I'll call down three names and
 7 then after each speaker I'll call another name to
 8 refresh their seat. Please take a seat near the
 9 microphone as I call your name. Please come down
 10 and have a seat.

11 As each speaker finishes, I will continue
 12 calling names I've just described. Each speaker
 13 will be given three minutes. The reason we do
 14 this is for fairness and so that we can all get
 15 through here tonight. For those three minutes,

16 you have the two minutes to make your comments
 17 and you cannot defer your time to another
 18 individual. It's for you and you alone to make
 19 your comments again to me, not to the audience.
 20 When each speaker has one minute remaining,
 21 our time keeper -- time keepers, please raise
 22 your hands. I have two time keepers in front of

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1 me. Each -- when you have one minute remaining,
 2 a time keeper will raise a yellow sign indicating
 3 there's one minute remaining. When the speaker's
 4 time has ended, our time keepers will raise a red
 5 sign that indicates your time's expired. In
 6 order to be fair to everyone, I ask that you
 7 please limit your comments to the time allotted.
 8 If your time expires before you're completed, I
 9 will be happy to accept any written comments you
 10 have with you. Submit them to me directly or any
 11 of our staff here tonight that we've introduced.

12 I would also advise speakers that if there's
 13 a previous speaker that makes a comment similar
 14 to yours, please add anything that's different
 15 because every comment, doesn't matter how many
 16 times you hear it, everything is considered
 17 equally and will all have impact to this process
 18 as we move forward.

19 The last of our rules, I'd ask everyone be
 20 courteous to each other. You're certainly doing
 21 that tonight already. I need your help in doing

22 so so we can properly focus on everyone's

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1 comments and understand what everybody's
 2 contributions are. Thank you for your patience
 3 here tonight. If everyone's ready, I think I'll
 4 start with the first three names. And I'll do my
 5 very, very best with your pronunciation of your
 6 name. Can I get Jean Rutledge, Nancy Cave, and
 7 Wayne Rhodes to please come down to the three
 8 seats here on the left, and then I'll need three
 9 seats on the right. If I could get Andy
 10 Yasinac, Pamela Greenlaw, and Ralph Richardson
 11 to the three seats to my right, your left.

12 The first speaker tonight, and we'll start
 13 here on the left, and our speaker comments will
 14 be Jean Rutledge.

15 Yes, ma'am. Yes, ma'am.

16 JEAN RUTLEDGE: I'm Jean Rutledge. I've lived in the
 17 Haile Gold Mine community all my life. That's
 18 where I was born and raised. And we are in
 19 support of this mining operation. We -- I've had
 20 several talks with Diane and Dave, and they have
 21 assured us that they will meet all the
 22 regulations they have spoken to y'all about. And

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1 I -- it would help the community for jobs, for

2 jobs. We don't have hardly anybody working in
3 the area, and that surely would help people. And
4 our jobs, to be able to get a job down here and
5 help everything around here.

6 LTC. CHAMBERLAYNE: Thank you, ma'am. Next speaker
7 will be Nancy Cave.

8 NANCY CAVE: Good evening. I'm Nancy Cave, North
9 Coast office director of the Coastal Conservation
10 League. We are an environmental advocacy
11 organization with over 4,000 members in South
12 Carolina and beyond. And I do appreciate being
13 allowed to speak with you this evening. And
14 we're not here to be opposed or for the Haile
15 Gold Mine but to indeed talk to you about some of
16 our concerns with the mine. And we do know that
17 this mine has significant economic opportunity
18 for the people of Kershaw and the surrounding
19 area. But it is also important that this
20 opportunity that we have -- consider the ongoing
21 human and environmental impacts of this gold
22 mine. In particular, I would like to comment on

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1 the impact of the gold mine on wetlands.
2 Wetlands are of critical importance to water
3 quality. And protecting them must be the Corps'
4 highest priority.

5 In the permit application, it states that
6 162 acres of wetlands will be either impacted or
7 destroyed. This should be a concern to the Corps

8 and to the people of this area. Every effort
 9 should be made to explore alternatives that would
 10 reduce wetland impact. Similarly, alternatives
 11 to the use of surface water streams and discharge
 12 points that either utilize or impact surface
 13 water should be part of the environmental impact
 14 savings process. These alternatives must
 15 consider both location of alternative,
 16 alternatives for waste rock or overburden,
 17 tailings, and associated roads as well as
 18 operational alternatives that include options for
 19 processing and mining that could reduce wetland
 20 impact. Ground water hydrology impacts resulting
 21 from the mined water and other activities need to
 22 be addressed in the EIS, along with the potential

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1 for lower water tables and their impact on
 2 wetlands.

3 Again, I'd like to emphasize the need for
 4 you to thoroughly explore alternatives. Water
 5 resource protection for the health of the natural
 6 and human environment should be your primary
 7 concern. Thank you.

8 LTC. CHAMBERLAYNE: Thank you, ma'am. The next few
 9 speakers to come down to the yellow chairs will
 10 be Elaine Cooper and W.D. Jones, MD. You please
 11 come down to either the -- two yellow seats that
 12 are reserved. The next speaker tonight will be
 13 Wayne Rhodes, the mayor of the town of Kershaw.

14 WAYNE RHODES: Thank you. I'd like to say, the first
 15 time I talked to anybody when Haile Gold Mine
 16 first come to this area, I was working for a
 17 Fortune 27 company. I'd been working on
 18 environmental projects for 36 years. So I know
 19 how hard it is to get environmental issues done.
 20 But when I sat down with Diane Garrett and Dave,
 21 and I asked three questions. And those three
 22 questions were always: What's your goal? And

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1 your goal should always number one be protect
 2 yourself. The second goal, which is the most
 3 important, is to protect the public. And the
 4 third goal that I ask -- they said, well, it's to
 5 protect the environment.

6 I looked at all the presentations. I felt
 7 very good about them and felt that our public,
 8 federal, state, and local regulators would make
 9 sure that the environmental impact, protecting
 10 the public, that y'all do y'all's job. And you
 11 come here tonight. But the economic impact that
 12 this mine's going to have on us is huge. Forbes
 13 Magazine put out a year ago that this is probably
 14 one of the worst -- Southern Lancaster County --
 15 in the nation. We -- gold mining's been here
 16 forever. It must be here for a reason.

17 But we need jobs in this area. I believe in
 18 working in harmony, and I really believe that the
 19 Haile Gold Mine is here to do all these things we

20 asked. We can work as a team and in harmony to
 21 make this a win-win situation where we protect
 22 the public and the environment. But like I say,

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1 this whole country is in trouble now with jobs.
 2 People want to go to work. They're wanting to
 3 get jobs. They're willing to train. They have
 4 been some of the most honest people I've met,
 5 genuinely in this time in this area.

6 But I'd just like to say I was very much
 7 disappointed when you decided to do environmental
 8 impact study versus the assessment. I know you
 9 have a job to do. I know you're going to make
 10 the right decision, but for us the right decision
 11 would be getting these people the permit to
 12 operate. Thank you.

13 LTC. CHAMBERLAYNE: Thank you, Mr. Mayor.

14 Next speaker to come down to the seats will
 15 be Mildred Payne. Come down to either of the two
 16 sets of reserved seats will be Mildred Payne.
 17 Next speaker to approach the microphone will be
 18 Andy Yasinac. Andy Yasinac? Again, a
 19 reminder, when I call your name, please come down
 20 to the yellow seats. Okay.

21 Next speaker will be Pamela Greenlaw.

22 PAMELA GREENLAW: Thank you very much. My question is

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1 about process. And, you know, I guess the
 2 comment will follow my question. In the
 3 processing (inaudible) scoping. All we know is
 4 alternatives impact analysis section called
 5 public information meetings as necessary. And I
 6 guess my question is who deems what is necessary.
 7 And my comment would be -- because I know you
 8 can't answer that in this format.

9 LTC. CHAMBERLAYNE: Yes, ma'am.

10 PAMELA GREENLAW: My comment here would be that I
 11 would suggest that you plan some regularly
 12 scheduled public information meetings, because
 13 even though we've gotten handouts and we can go
 14 to your website, I think this direct contact to
 15 clarify is going to be very necessary in the
 16 future. So that's my comment. Thank you very
 17 much.

18 LTC. CHAMBERLAYNE: Thank you, ma'am. Appreciate it.

19 Next speaker to come down to the yellow
 20 reserved chairs will be Willis Pittman and Keith
 21 Tunnell. Next speaker to address me in their
 22 comments will be Ralph Richardson.

1 RALPH RICHARDSON: Thank you. I have studied the
 2 website and things like that. Got a lot of
 3 information to discuss with the people that I
 4 believe know what they're talking about,
 5 professionals in the industry. And it looks like
 6 you're doing a real fine job of preparing to

7 mitigate the wetlands. Looks like they're doing
8 a good job preparing the manufacturing process,
9 which is state-of-the-art. And we need the jobs
10 in this area right now. Thank you.

11 LTC. CHAMBERLAYNE: Thank you, sir.

12 Next speaker to come down to the yellow
13 reserved chairs will be Gus Deligiannidis --
14 Deligiannidis. I tried. Okay. Next speaker to
15 address me in her comments will be Elaine Cooper.

16 ELAINE COOPER: Hello. I am a chair of the John
17 Bachman Sierra Club Group, and I came out tonight
18 with the same concerns as this man had about the
19 wetlands, but I also like early in the public
20 meeting to try and gather some information. And
21 so I would like to refer to this diagram that was
22 handed out by the gold company. Especially these

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1 two little diagrams that you have to use a
2 magnifying glass to look at the tiny print. So I
3 went over and asked two Army Corps' ladies, not
4 the contract company that has only been with you
5 all for a month but the ladies who have been
6 working on it, and they said, quote, "This is the
7 first time we've seen this diagram tonight.
8 We've never seen it." And I said, "Could you
9 explain this diagram?" They could not.

10 So that to me just indicates my major
11 concern, which is we're only at the very, very
12 beginning baby steps of even beginning to

13 understand what questions we have posed. So
 14 please -- media be permitted at any more meetings
 15 that involve the community. Thank you.
 16 LTC. CHAMBERLAYNE: Thank you, ma'am.
 17 Next speaker to come down to the yellow
 18 reserved seats will be Mary Bartell. Next
 19 speaker here will be W.D. Jones, MD, to approach
 20 the microphone. Okay. No problem. Could I get
 21 Danny Blackwell to come down to the chairs, and
 22 the next speaker here will be Mildred Payne.

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1 MILDRED PAYNE: My name is Mildred Payne. Thank you
 2 very much for being here tonight so we can make
 3 our opinions known. And we really approve of the
 4 way that Romarco has been so honest with our town
 5 and (inaudible) they can hear the word and making
 6 sure that all the people are safe in Kershaw.
 7 And like I said we really do need jobs. And not
 8 only jobs, but we need environmental goods so
 9 that we can -- you know, we'll be (inaudible).
 10 But we really trust Romarco and everything
 11 they've done here in Kershaw. And we feel that
 12 they're really working with your crew to make
 13 sure that they do everything that is right for
 14 the people. Thank you.
 15 LTC. CHAMBERLAYNE: Thank you, ma'am.
 16 Next speaker to come down to the reserved
 17 chair so you can go to your microphone will be
 18 Jack Estridge. And if I could get Willis Pittman

19 to make your comments -- or make comments, excuse
20 me.

21 WILLIS PITTMAN: As a land owner and a grandfather,
22 I'm concerned about the environment and working

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1 with the safety and environmental issues for many
2 years. I'm concerned that -- and as to one of
3 those applications that they submitted for the
4 permit. And I received it from the Corps of
5 Engineers. Went through it. I feel as in
6 investigating Romarco the official regulations
7 (inaudible). This -- this request that they
8 submitted is very much in detail. I didn't quite
9 understand everything about it because -- but I
10 thought it was very thorough. My question to you
11 would be what the requirement of what they
12 submitted.

13 LTC. CHAMBERLAYNE: Yes, sir. Please just stick to
14 comments at this time.

15 WILLIS PITTMAN: So many times the -- our basic issues
16 that we're concerned about the environment, but I
17 feel that they've been quite forthright in
18 presenting in this request. Sometimes, again, we
19 get involved in issues where -- and I'm going to
20 use my home as a resident as an example. The
21 heelsplitter -- mussel and clam. I was told at
22 one time there wasn't a great amount of those,

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1 aren't there anymore because they were going to
 2 affect the run-off from that dirt road that's
 3 going to affect it. I'm sure most of them could
 4 get a handful of them whether you want to go in
 5 the county. You've heard those stories before
 6 about how industry and environment people --
 7 environmental control people stopped an
 8 industrial road that causes the damage to
 9 something that probably wasn't much effect on
 10 human survival.

11 So I'm just concerned sometimes we
 12 overregulate. But I feel that this petition they
 13 submitted is well covered, and I'm sure you're
 14 going to regulate it, and so that's -- that's
 15 about all I have to -- I'm concerned about the
 16 employees, for my grandsons and granddaughters in
 17 the future also. Thank you.

18 LTC. CHAMBERLAYNE: Thank you, sir.

19 Next speaker to come down will be Jim
 20 Kuipers. Stand to the yellow chairs. Next
 21 speaker to address their comments to me will be
 22 Keith Tunnell.

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1 KEITH TUNNELL: Colonel, thank you. As economic
 2 development director for Lancaster County, I'd
 3 like to just present some facts. 50 percent of
 4 employment in this county, in the southern

5 section of the county, we're probably looking at
 6 closer to 30 percent. Since the last four years,
 7 when Haile Gold Mine first came here, I've had
 8 the opportunity to meet with Diane and her team
 9 from day one. They have been very open. They
 10 have high integrity. They have a plan for this
 11 gold mine.

12 There's two options here. We can have an
 13 abandoned gold mine that is going to have
 14 environmental problems, or we can have an
 15 operating gold mine that will produce jobs and
 16 economic development, and after it is finished,
 17 there's money there to reclaim that site and make
 18 it better than it is today. And although I
 19 understand and appreciate the Sierra Club and
 20 other environmental groups being here tonight, no
 21 one cares more about this community than the
 22 people who live here every day. They've lived

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1 with this gold mine and they've understood this
 2 gold mine. They've swam in those pits. They've
 3 ran through those fields and lived here. They
 4 want jobs and economic development.

5 What Haile Gold Mine is doing is sound,
 6 sound technology. They've walked this from day
 7 one. It is state-of-the-art. It is new
 8 technology. It is going to leave the property in
 9 better shape than it was when we first came here.
 10 They have been incredible to work with. And they

11 have invested a great deal of time, money, and
 12 effort in this community. And I would urge the
 13 Sierra Club, other environmental groups to be
 14 here every day and every week and every month and
 15 see that gold mine, work in the community, making
 16 certain that what they do is sound. It's going
 17 to benefit this community not only today,
 18 tomorrow, but in days to come, and I would urge
 19 approval of the permit and would actually like to
 20 see it being approved yesterday. Thank you.
 21 LTC. CHAMBERLAYNE: Thank you, sir.
 22 Next speaker to come down to the chairs will

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1 be Sheila Hinson to the chairs. The next speaker
 2 to address me in your comments will be Gus
 3 Deligiannis. I tried. Thank you, sir. I
 4 apologize.
 5 GUS DELIGIANNIS: I appreciate having the time to
 6 share with the the folks, the people that I meet
 7 for 25 years. I'm a restaurant owner, and I'm
 8 here to give you some facts. Several years ago,
 9 there were meetings held in my new restaurant at
 10 that time, and I knew the people. Very nice
 11 people. Very awesome people, getting up and
 12 opposing the -- the -- (inaudible) were going to
 13 be set. And at that time, I was very new. I was
 14 newly naturalized citizen, so I kept my mouth
 15 closed. Then I repeat myself correct. We never
 16 -- we never had any big problem with the people

17 that we have here. Simply they were the best. I
 18 am greatly (inaudible) on the seating in America
 19 and the privilege of coming from Europe. I dealt
 20 in state, federal, local agencies. I trusted
 21 myself, and I believe in all the person, all
 22 these agencies that they will check behind the

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1 Haile Gold Mine offices. Besides, I dealt with
 2 them for a few years now. They are wonderful
 3 people, and some had -- had experience and go to
 4 the gold mine. Go to the gold mine facility
 5 right now, he'll see -- we'll see that these
 6 people have intention of operating right and
 7 doing right. That's the message that I get each
 8 time I go there. I have no doubt to the system
 9 or the United States, that they will check with
 10 them and these people are -- the Dave and Diane
 11 and all the people that are involved, they will
 12 not kick the bucket full of me. What do I mean
 13 by this? I heard an answer that it comes
 14 millions and millions of gold. They're not
 15 stupid, these people. Diane and Dave, even if
 16 they operate or after they leave, not going to do
 17 their job right. There's a lot of money
 18 involved. They will spend some of this money to
 19 do right. And I believe they will do. And based
 20 on that, I respect everybody's opinion, but at
 21 the same time, I believe it's a great company to
 22 be in Kershaw. Thank you.

1 LTC. CHAMBERLAYNE: Thank you, sir.

2 I would ask Scott Croxton to come down,

3 please, to the chairs. And then Mary Bartell,

4 address me in your comments. Mary Bartell.

5 MARY BARTELL: Hi. I have lived here all my life. I

6 lived in Haile Gold Mine all my life except

7 (inaudible). Been there through times that other

8 companies have come in. We've seen the damage

9 they've done, but they deny and I have talked

10 with them many times. And they have been very

11 nice to us. They have been real good to us, and

12 they have watched out for us. And I believe that

13 they would do a fantastic job. We had a lot of

14 problems with the last one with cyanide in the

15 water. And no one seemed to care at that time

16 that we had these problems. But they've now

17 assured us, and I believe them, that they will

18 take care of us and they will not do it.

19 And Sierra Club and all that, they have no

20 concerns about what we were going through at that

21 time. And because we needed jobs, these jobs.

22 There's no jobs here, and you get unemployed and

1 you go through and look for jobs, you cannot find

2 a job. And they're going to provide jobs for

3 young people. All our young people because we

4 cannot find them and if they can please allow the
 5 opening mine to provide 250 jobs. Thank you.
 6 LTC. CHAMBERLAYNE: Thank you, ma'am.
 7 I'd ask Larry Faulkenberry to come down to
 8 the yellow chairs. And the next speaker will be
 9 Danny Blackwell.
 10 DANNY BLACKWELL: Hello, I'm Dr. Danny Blackwell from
 11 Kershaw. I was born and raised here. And thank
 12 you for your service to the company and thank you
 13 for the service that you are exhibiting here for
 14 the town of Kershaw.
 15 I was born and raised here. We had farms
 16 adjoining the Haile Gold Mine and two of the
 17 other mines that are here in Kershaw. One of our
 18 tracts of land was on the Haile Gold Mine. My
 19 kids have played in that creek and panned for
 20 gold and picked up fool's gold and nuggets and so
 21 forth from that area, and they played in it for
 22 many, many years. Where the creek (inaudible) on

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1 our farms, there was another. And that's where
 2 we got our live (inaudible) to go fishing with.
 3 So it's not going to kill the environment.
 4 Because back in 1827, the mine was here 62 years
 5 before the town of Kershaw. Had it not been for
 6 Haile Gold Mine, we may not have been able to get
 7 a train through Kershaw and have gold chipped out
 8 in the frame.

9 But the people who are in charge of the mine
 Page 40

10 now, that set aside reclamation (inaudible)
 11 probably (inaudible) more than any other industry
 12 has in South Carolina. So I think that they're
 13 dedicated to doing a reclamation that needs to be
 14 reclaimed. I do know that they have been
 15 humanitarians. I worked in the free medical
 16 clinic today, and I saw a lot of people who have
 17 almost nothing. People who would be able to work
 18 if there were jobs available. But as some have
 19 said, about 30 percent of this area is
 20 unemployed. So we are hopeful that all of the
 21 investigations that you do, that there will be a
 22 place here so we can mine gold, provide jobs, and

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1 help people help themselves.
 2 LTC. CHAMBERLAYNE: Thank you, Dr. Blackwell.
 3 Ask Ann Timberlake to come down to the
 4 yellow chairs, Ann Timberlake. And the next
 5 speaker will be Jack Estridge.
 6 JACK ESTRIDGE: Good evening and, again, thanks for
 7 being here and let us speak out and give you our
 8 thoughts. I'm a member of Lancaster County local
 9 government and also a member of the Lancaster
 10 County economic development board. And needless
 11 to say, I'm here to speak out to get the gold
 12 mine started. We need jobs. As Mr. Tom said, we
 13 have something like from 25, 30 percent
 14 unemployed, probably around a 15-mile radius of
 15 Kershaw. And I think this is a great

16 opportunity. I think it's a blessing. And the
 17 gold mine itself is nothing new. It's been here
 18 180 years. I think it's a call to be (inaudible)
 19 may have started up. People talk about the
 20 environment -- mine and safety, environment. I
 21 don't think there's a person in this building who
 22 don't care about the environment. Human rights

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1 are important too. Without jobs, we won't
 2 survive. And if there's gold in the ground and
 3 it could be gotten safely and provide jobs,
 4 that's what we want.

5 Again, I heard a lot of people talk about
 6 the gold mine. They're nice folks. Been around
 7 a couple years. And I don't know of a single
 8 person that sold property that can tell you they
 9 wouldn't treat them fair. And most of the people
 10 who's selling the property and moving out of
 11 their homes, most of them live within 3 to 5
 12 miles from where your original home is. Again, I
 13 work 3 miles from the original site. And I just
 14 appreciate anything y'all can do to help us
 15 through the process.

16 LTC. CHAMBERLAYNE: Thank you, sir.

17 If I can get Steve Moore, Steve Moore come
 18 down to the chairs. And the next speaker will be
 19 Jim Kuipers.

20 JIM KUIPERS: Good evening, Colonel Chamberlayne. My
 21 name is Jim Kuipers. I'm with

22 Kuipers & Associates, and we're based in Butte,

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1 Montana. We're here tonight on behalf of
2 Southern Environmental Law Center. And I wanted
3 to address a couple of your specific requests.
4 With respect to potential impacts, I live in the
5 state of Montana. We've been involved in mining,
6 both good and bad, for many, many years now.
7 Come from a mining family. We know there are
8 issues with mining, but we also know there are
9 solutions.

10 I think it's very important that the CIS
11 (sic) process look very hard at associated water
12 quality impacts. Need to give that a hard look.
13 And there's a lot of information, a lot of
14 knowledge out there about how to look at this.
15 We have testing (inaudible) and analyze what's
16 best come up with issues. And that's very key
17 part of this the group needs to focus on.

18 The scope EIS is very important. I want to
19 encourage you to study a full range of
20 alternatives. We've seen two EIS's where we come
21 back with draft stage and the final stage, and
22 there are viable alternatives to address issues

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1 they will not put on the table. And I think it's

2 very important, and if there's opportunity for
 3 you work with the company, other consultants.
 4 There's people to bring those alternatives to the
 5 table and make sure they're considered.

6 When we do that, we need to look at
 7 mitigation as a part of that, not just location,
 8 outreach and alternatives. What kind of
 9 mitigation to deal with these problems? We've
 10 learned a lot by recognizing and doing
 11 (inaudible). This gold mine (inaudible) is done
 12 reclamation, and we have a record of that, which
 13 is very, very hazardous process that I think to
 14 needs to be to looked at. It's important we also
 15 identify solutions, but we also need to make sure
 16 in doing that we recognize the cost to begin
 17 with, because otherwise (inaudible) realize some
 18 of these issues.

19 I think there are a couple of alternative
 20 processes for you to look at. In particular,
 21 some that would help in choosing the
 22 alternatives. I might mention (inaudible)

1 analysis, which is actually how we learn to keep
 2 airplanes flying all these years. Same way we
 3 learned to keep gold mines operating without harm
 4 to the environment. And then there's also a
 5 process of multiple (inaudible) analysis that
 6 allows us to not only protect the factors but
 7 also weighing social, economic, and other factors

8 in the EIS process. And there are many examples
9 of these out there on mining projects.

10 LTC. CHAMBERLAYNE: Thank you, sir. Thank you.

11 Next speaker to come down to the yellow
12 chairs will be Sally Newman. Next speaker to
13 address me in their comments will be Sheila
14 Hinson.

15 SHEILA HINSON: Thank you, Colonel Chamberlayne. I
16 think everything that can be said has been said.
17 I represent the Kershaw Chamber of Commerce. I'm
18 the president of that organization. And I have
19 to say that we stand behind Haile Gold Mine 100
20 percent. They have been a blessing to us.
21 They've been a blessing to our community. They
22 brought in jobs. They -- more than any jobs,

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1 though. They have equated goodwill toward
2 everybody here.

3 Yes, we want gold mining. Absolutely, we
4 do. And that's the reason we have you, to take
5 care of that. But I do think that anything or
6 the goes on or could go on, I have all the faith
7 and the chamber has all the faith in Diane
8 Garrett and Dave. We have the utmost respect for
9 them. The chamber commended them this year this
10 past year because of all they have done for our
11 community. We're very proud of them, and we're
12 very proud of Kershaw. And we're very proud of
13 our children and the fact that they can stay home

14 and have jobs and more jobs are going to be
 15 created. That's what the Chamber of Commerce is
 16 all about, and having the jobs available. And we
 17 want more businesses, and that's what the chamber
 18 is concerned with. And I'm also on the economic
 19 development committee.

20 So we're very concerned with that. But we
 21 are concerned with -- with what you're going to
 22 do too, and we appreciate that. I just -- as I

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1 said, we have all the faith in the world in the
 2 company. And we stand behind them 100 percent.
 3 Thank you so much.

4 LTC. CHAMBERLAYNE: Thank you, ma'am.

5 Like to call Chris Descherer. Next speaker
 6 addressing me in comments will be Scott Croxton.
 7 I still think I'm saying your name wrong. Sorry.

8 SCOTT CROXTON: Like to thank you. I'll just give a
 9 little different perspective. I am a local
 10 contractor. I've been on site almost over ten
 11 and a half years, and I've known Dave, worked
 12 with him personally and other staff out there.
 13 My son and I, we are farmers by trade. I'm a
 14 fifth generation farmer. I've been in this
 15 community for a long time. And I guess you'd say
 16 farmers are original environmentalists. If we
 17 don't take care of our water and our land, then
 18 we don't make a living. So I'm very experienced
 19 with that.

20 We raise turkeys, and we have to abide by a
 21 waste management plan. DHEC comes on our
 22 property unannounced at any time. And also, we

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1 work for a large company called (inaudible)
 2 Forest and Land, and we have to use best
 3 management practices on this property. And I can
 4 say since I've been on property of Haile Gold
 5 Mine, their standards are higher than any
 6 standards that I have -- that I've abided by
 7 (inaudible) that's best management practices for
 8 at Clemson University. We have to be certified.

9 I guess one thing I'd like people to
 10 consider is that -- or I'd like you to consider,
 11 it's important what people say, but it's very
 12 important what they do, what they've done in the
 13 past. I've been on site for two and a half
 14 years. And like I said, it's not a matter of
 15 what it cost or it's not a matter of doing it
 16 cheap as possible. It's a matter of doing it
 17 right. And their standards -- and believe me,
 18 I've had to do things more than once because
 19 first time, their standards, I didn't quite meet
 20 them, and so they told me to do it again. And of
 21 course they never say, well, we're going to take
 22 it away from you financially for that. It's just

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1 a matter of letting them handle it right. Dave
 2 and Diane have been some of the most honest
 3 people of integrity I've ever been associated
 4 with. What you see is what you get.
 5 And I'd just like to end with saying this.
 6 My son just had his first daughter. She's my
 7 first granddaughter. And if I saw anything on
 8 that property that questioned my health and my
 9 son's health, that would affect my grandchildren,
 10 I would not want to be associated. But I can
 11 tell you it's a pleasure to work for them, and
 12 they have a high standard since I've been
 13 associated with them and their environmental
 14 practices. They're a good neighbor for our
 15 community, and I hope the process goes through.
 16 And I'm certainly in favor of the process. Thank
 17 you.
 18 LTC. CHAMBERLAYNE: Thank you, sir.
 19 Next speaker to come down to the yellow
 20 chairs will be Sarah Zuzulock. Next speaker to
 21 address me in comments will be Larry
 22 Faulkenberry.

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1 LARRY FAULKENBERRY: Thank you, Colonel. And I would
 2 just like to say thank you for your service to
 3 our country. I was told by someone that you had
 4 two tours of duty bars. I do appreciate that.
 5 Three. Three tours. Let's give him a hand.
 6 LTC. CHAMBERLAYNE: Thank you.

7 LARRY FAULKENBERRY: I've lived here all my life. I
 8 moved a year and a half ago to Richland County.
 9 I played baseball right here where this building
 10 sits. I owned this land at one time. I still
 11 have a son that lives here in Kershaw and some
 12 grandchildren, so I'm concerned about that.
 13 I know about weapons and mitigation. I
 14 hired SME (inaudible) to identify weapons for me.
 15 So I've had a lot of dealings with weapons. I've
 16 had some dealings with some environmental groups
 17 and the Corps of Engineers and the EPA that I
 18 didn't particularly agree with, because I think
 19 sometimes we get in a position where we don't use
 20 good common sense with some decisions. And I
 21 think that's a problem that we have in this
 22 country right now, and we see it in Washington so

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1 much is the things are bad because we just don't
 2 use good common sense.
 3 There's nobody in this room that wants to
 4 another Ridgeway mine here. Nobody. And I don't
 5 want one because although I don't live here now,
 6 I still have a house here. I still have -- our
 7 family land is here and my grandchildren are
 8 growing up here. But we don't want -- we don't
 9 want a Ridgeway mine. But I dealt with Dave, and
 10 I've never met this good-looking lady yet. But
 11 I'll have to say that they straight up with me,
 12 and I'm looking for you to help protect me and

13 our grandchildren.
 14 And, you know, if Solomon was here now, he
 15 could solve this pretty easy. And the more I
 16 read the Bible, I think that Solomon had what we
 17 call common sense. So that's what I'm going to
 18 ask you to do is use good common sense. And
 19 Kershaw blessed me with these jobs, and people
 20 here are hurting. And I just think we need to
 21 bring this together here.
 22 LTC. CHAMBERLAYNE: Thank you, sir.

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1 Next speaker to come down to the yellow
 2 chairs will be Gary Ritchie. Next speaker to
 3 address me in comments will be Ann Timberlake.
 4 ANN TIMBERLAKE: Good evening. I'm Ann Timberlake,
 5 and I'm executive director of Conservation Voters
 6 of South Carolina. Conservation Voters is a
 7 statewide nonprofit organization. We work to
 8 elect conservation-minded candidates, we advocate
 9 the conservation policies, and we bring together
 10 over 40 conservation groups from across the state
 11 in support of legislative problems.
 12 I want to begin tonight by commending the
 13 Romarco team for reaching out to conservation
 14 leaders. They briefed us about their plans for
 15 the Haile mine. They gave us a tour of the site
 16 and the mitigation areas. We take seriously
 17 their determination to make this proposed mine
 18 the industry's most environmentally sound

19 operation in the country. For this reason, we
20 encourage the Corps to conduct the EIS process in
21 the most inclusive and transparent manner to
22 ensure that complex concerns are thoroughly

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1 addressed.

2 We believe that then we have an opportunity
3 here to exceed public expectations by forming an
4 expert panel of technical advisors with
5 representatives from supporting agencies as well
6 as the highest level of consulting technical
7 environmental expertise that can be obtained for
8 this process -- for this project.

9 There are precedents for combined agency and
10 environmental committees. That was one of the
11 I-73 projects, for example. We know of other
12 major mining projects that have benefited from
13 the use of confident experts in review panels or
14 task forces -- there's, you know, some
15 flexibility here -- created to advise the EIS
16 agency and the contractor. In the case of this
17 particular site, we would suggest that this
18 approach could be used to develop a full range of
19 alternatives, particularly to the possible
20 destruction of the 162 acres of wetlands and also
21 to evaluate the proposed mitigation and its
22 effectiveness as well as alternative or

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1 additional mitigation measures.

2 I think the first step that we see is

3 agreeing that there are certainly challenges with

4 wetlands, water quality, and acid mine damage.

5 That up front should improve the process and in

6 the end help Romarco -- and I'll use a pun

7 here -- accept the highest gold standard for

8 other operations that are predicted to follow in

9 the slate belt. Too often in the past, South

10 Carolina has not insisted on the best. We pay a

11 price. We got garbage mountains, hazardous and

12 nuclear waste dumps. In this case, we have high

13 expectations for the EIS process. And we believe

14 it's an important means of protecting the

15 public's interest and the environment.

16 LTC. CHAMBERLAYNE: Thank you, ma'am.

17 ANN TIMBERLAKE: Thank you.

18 LTC. CHAMBERLAYNE: Next speaker will be Steve Willis

19 to come down to the yellow chairs. Next speaker

20 to address me in comment will be Steve Moore.

21 STEVE MOORE: Thank you, Colonel. Good evening. I'm

22 Steve Moore. I work for the South Carolina

1 Wildlife Federation. We're South Carolina's

2 oldest conservation organization. We're

3 celebrating our 80th year, and we have about

4 8,000 members around the state.

5 First of all, I want to thank the Corps of
 6 Engineers for developing the environmental impact
 7 statement on this project. A project of this
 8 size and with this potential impact needs to be
 9 looked at very carefully to ensure that it has
 10 the least environmental and social impacts
 11 possible. We know from past experience that gold
 12 mines can have significant environmental impacts.

13 First, we're concerned by the impact of 162
 14 acres of wetlands and the damming and use of the
 15 stream as part of the mining operation. A
 16 complete alternatives analysis needs to be
 17 performed to reduce these impacts to the bare
 18 minimum needed to carry out the objective of the
 19 mine, and every acre of wetland destruction needs
 20 to be fully justified with a finding of no
 21 feasible alternatives. Using a stream as part of
 22 the mining operation shouldn't be allowed.

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1 (A discussion was held off the record.)
 2 (Audio technical difficulties were encountered.)
 3 LTC. CHAMBERLAYNE: Our next speaker is Steve Moore,
 4 and we've got the microphones.
 5 STEVE MOORE: Thank you, Colonel. As I say, we're
 6 concerned about impacts to 162 acres of wetlands
 7 and damming and use of streams as part of the
 8 mining operation. A complete alternatives
 9 analysis needs to be performed to reduce these
 10 impacts to the bare minimum needed to carry out

11 the objectives of the mine. Every acre of
12 wetland destruction must be fully justifiable
13 with no feasible -- finding of no feasible
14 alternative. And using a stream as part of the
15 mining operation shouldn't be allowed.

16 The EIS should also look at dewatering
17 activities to make sure that wetlands aren't
18 inadvertently dried up by lowering the water
19 table. Second, we are concerned about water
20 quality impacts from the proposed mine. There
21 have been significant water quality impacts from
22 previous mines on this site. We want to ensure

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1 that this does not happen again with this much
2 larger operation.

3 Possibly the primary water quality impact we
4 should be concerned with is acid mine drainage.
5 This has been a very real problem at gold mines,
6 and it can persist for centuries. It is
7 important this issue be addressed on the front
8 end. Our wet environment here in the east makes
9 this a very different problem than in the dry
10 environment of the west, where most of the gold
11 mining has taken place in this country. The
12 applicants have proposed a plan to deal with this
13 issue, and it should be reviewed by independent
14 experts to ensure that it will adequately deal
15 with acid mine drainage at this site.

16 There's also the potential for the release

17 of pollutants, such as arsenic and selenium, that
18 should be addressed. These pollutants can cause
19 significant wildlife impacts. And when looking
20 at all these pollutant issues, it is important to
21 remember that any pollution that's released here
22 will find its way into our rivers downstream.

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1 And as always, it's important that all water
2 quality mitigation measures must be passive with
3 no requirement of long-term maintenance
4 operation.

5 The construction and operation of such a
6 large gold mine is something new for South
7 Carolina. We believe it would be beneficial for
8 the Corps to convene a stakeholders' group of
9 technical experts to advise them in the
10 development of the EIS to ensure that the
11 operation and reclamation plan will adequately
12 protect our environment. This would make the EIS
13 process more open and would promote trust in the
14 results.

15 Finally, it is our understanding that this
16 mine is possibly just the first of many that
17 we'll see here in South Carolina over the next
18 decade. This fact should be taken into account
19 when looking at cumulative impacts. It is
20 critical to make sure that this mine is developed
21 in the most environmentally sensitive manner
22 possible and that any subsequent mines are held

1 to the same standards. Thank you.

2 LTC. CHAMBERLAYNE: Thank you, sir.

3 Next speaker to come down to the yellow
4 chairs will be Brenda Shields. Next speaker to
5 address me with comments will be Sally Newman.

6 SALLY NEWMAN: Hi there. My name is Sally Newman.

7 I'm an attorney at the Southern Environmental Law
8 Firm in Charleston, South Carolina. And I also
9 took a personal interest in this project because
10 I was born and raised in rural Montana, where we
11 were surrounded by gold mines. And Montana has a
12 long and very troubled history with gold mines.
13 They've provided a lot of jobs in our
14 communities, and they've also created a lot of
15 environmental problems.

16 Many mines shut down. So many of them shut
17 down because of huge environmental problems, and
18 (inaudible) specifically passed any future gold
19 mines from other state level. To give you one
20 example, a gold mine about 6 miles from my home.
21 There are a (inaudible) but they didn't need
22 monitor for their water for 15 years. It

1 actually needed treatment for (inaudible).

2 I know that South Carolina has a history of
3 gold mining and there is a gold mine on this

4 site. But as I think everyone is aware here,
5 this gold mine has been proposed to have just a
6 magnitude and a size that's much larger than
7 South Carolina has ever seen before. We all know
8 that gold prices are high right now, and this is
9 likely to start a number of mines that are
10 interested in coming in this area and setting up
11 operations.

12 So we want to make sure that when we're
13 setting up this mine, we're analyzing it and
14 we're doing the environmental impact statements.
15 But we're thinking not just about the impacts
16 that this mine will have but the impacts of all
17 the other mines that might be following.

18 So in terms of the scope of this
19 environmental impact statement, the geographic
20 and temporal analysis in the EIS should help with
21 the expansion of this mine in the future and the
22 for the other -- the company's other mines that

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1 Romarco's mines that might in the future. One
2 mine at present might have a certain level of
3 impact, but you start adding a dozen in, and
4 those impacts are multiplied.

5 We are concerned that those cumulative
6 impacts from more than one mine will result in
7 significant environmental degradation of the
8 environment and local quality of life. Remember
9 that the mistakes that might be made here in this

10 analysis and in the setup of this mine are likely
11 to be repeated by future mines. It's worth
12 putting in the work now to make sure that
13 cumulative impacts in the future are as limited
14 as possible. Thank you.

15 LTC. CHAMBERLAYNE: Thank you, ma'am.

16 Could I get Bill Jenkins to come down to the
17 yellow chairs, and our next speaker to address me
18 in comment will be Chris Descherer.

19 CHRIS DESCHERER: Thank you, Colonel. I also work at
20 the Southern Environmental Law Firm, the South
21 Carolina office. We work in six states
22 throughout the southeast. And we're here

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1 tonight, two of our lawyers from South Carolina,
2 Sally Newman.

3 I don't want to repeat what a number of
4 folks have already said, so I'm going to try and
5 get some highlights. 162 acres of wetlands.
6 Just to put that into context, I would venture to
7 state that there are many Corps districts
8 throughout the country that might not allow a
9 permit impact to that many wetlands in a year
10 total. It's a tremendous number of wetlands.
11 We're happy to see that the Corps has required an
12 EIS.

13 Seven and a half miles of stream, tremendous
14 amount of streams to be impacted. So it's a
15 significant activity. We feel like it did call

16 for a full-blown environmental impact statement.
 17 We're glad to see that the Corps is doing that.
 18 We're glad to see that the company is jumping in
 19 on that as well.

20 Couple other issues. I haven't heard this
 21 said tonight, so I will say it. In terms of the
 22 alternatives -- now, this is just a lawyer

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1 working on the issues. Because gold mining is
 2 not a water-dependent activity, it is the burden
 3 of the company with independent verification by
 4 the Corps to determine the feasibility of the
 5 least damaging alternative. I know you
 6 understand that. But it's not the public's
 7 obligation. Again, it's the company's burden to
 8 carry forward under the environmental impact
 9 statement and primarily the Clean Water Act.

10 I was really glad to hear Dr. Darden talk
 11 about in terms of alternatives, he wanted to hear
 12 about not just location alternatives, not just
 13 can we avoid wetlands by mining over here because
 14 over here that's really important, but also just
 15 operational alternatives. Can there be
 16 underground mining here? If so, would that be
 17 less harmful to the environment and to the
 18 community? That's exactly the type of thing we
 19 think should be said directly in the
 20 environmental impact statement.

21 There has been mining here. I really

22 encourage everyone to take advantage of all the

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1 data that's been provided here tonight. This is
 2 a great opportunity to use data and to think
 3 about how the past experiences can be improved
 4 and to benefit from the data that's already been
 5 generated. Although there's been mining here
 6 too, I would just note that this mine to me
 7 appears to be, this proposal, much grander in
 8 scale, bigger footprint, digging far deeper than
 9 the previous mine efforts did in terms of not --
 10 might have been 100 feet deep the last time
 11 around. Now they're -- they proposed to be 800,
 12 900 feet deep, whatever the hydrogeological
 13 ground water (inaudible). It's a different scope
 14 altogether. And --

15 LTC. CHAMBERLAYNE: Thank you.

16 CHRIS DESCHERER: Thank you.

17 LTC. CHAMBERLAYNE: All right. The next speaker will
 18 be Sarah Zuzulock.

19 SARAH ZUZULOCK: Hi. Thank you. My name is Sarah
 20 Zuzulock. I'm with Kuipers & Associates. I'm an
 21 environmental engineer from Montana also. Worked
 22 in mining issues for over 10 years, in particular

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1 in helping communities to address their concerns

when an operation comes into their area.

I'm here this evening to represent Southern Environmental Law Center as well as other South Carolina conservation groups. Like to see the EIS completed for analysis of the alternatives to evaluate the impacts that have already been predicted, including water quality impact. It's important, as we've heard this evening, to use the years and years of baseline data and reclamation water quality associated data collected through previous operation and closure of the Haile Gold Mine sites.

The alternatives analysis (inaudible) scenarios and action plans that are designed to minimize and mitigate water quality impact on the gold mine, including acid mines, which you've heard a lot about this evening as well.

Another important factor to consider is Romarco's proposed reclamation plan and postclosure monitoring of the operation. Those of us that are familiar with mining know that

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these reclamation (inaudible) can result in the cost of tens and even hundreds of millions of dollars to a company. It's important to have a plan that's conservative to get the water quality impact (inaudible) address those in the long term.

Also need to consider socioeconomic impacts,

8 not just those that are environmental. In
 9 operation, often we'll see mining operations come
 10 in to smaller communities and that can impact the
 11 schools, the housing, the infrastructure in the
 12 community. And that might be able to address
 13 those fully. And finally I'd encourage this
 14 EIS -- thank you -- to involve a multiparticipant
 15 process in the alternatives analysis and review
 16 of the draft documents, and that could include
 17 regulatory agencies, both federal, state, as well
 18 as the local agencies in the community,
 19 environmental conservation groups and
 20 (inaudible). We found in our experience that
 21 these multistate (inaudible) processes serve to
 22 make sure the impact is mitigated and also

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1 minimize the amount of challenge and
 2 dissatisfaction we often see through the
 3 alternative evaluation process. Thank you.
 4 LTC. CHAMBERLAYNE: Thank you, ma'am.
 5 Next speaker will be Gary Ritchie.
 6 GARY RITCHIE: Thank you, Colonel. My name is Gary
 7 Ritchie. I am a resident of South Carolina.
 8 Kershaw, South Carolina. I'm also a land owner
 9 who owns property adjacent to the gold mine, so I
 10 have a vested interest in making sure that they
 11 adhere to everything as per the environmental
 12 protection.
 13 But what I'm most proud of is I'm an

14 employee at Haile Gold Mine. Out of all the
 15 years that I have been involved in environmental
 16 issues, I have never met a company that is more
 17 interested in making sure that they do everything
 18 above board. I know that you guys are going to
 19 do your job to the best of your ability and
 20 things will be done the way you want them done,
 21 and I feel confident that any study that is done,
 22 any survey that is done, any test that is done,

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1 will be met with the utmost satisfaction to the
 2 people. This is a good company. It's a great
 3 company to work for. And thank you.
 4 LTC. CHAMBERLAYNE: Thank you, sir.
 5 Next speaker will be Steve Willis.
 6 STEVE WILLIS: Good evening. I'm Steve Willis, county
 7 administrator for Lancaster County, and I'm here
 8 to convey support for the Haile Gold Mine project
 9 from county council chairwoman Kathy Star. She
 10 could not attend due to her medical practice.
 11 Would note this is a personal view. Council is
 12 not asked to convey a position on the project.
 13 It's a council of the body. But I would note
 14 you've already heard from the council who
 15 represents the southern part of Lancaster County,
 16 Counselor Jack Estridge. And his comments are
 17 certainly indicative of what we've heard from all
 18 the other council members, certainly support of
 19 Romarco. Been a good company partner here in

20 Lancaster County.
 21 Chairwoman Star feels that the many
 22 residents working for the Haile Gold Mine will

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1 certainly take care of the environment by
 2 following both federal and state regulations.
 3 The gold mine has already proved to be a good
 4 neighbor by bringing jobs and supporting the
 5 economy of the town of Kershaw and Lancaster
 6 County. Thank you.
 7 LTC. CHAMBERLAYNE: Thank you, sir.
 8 Next speaker will be Brenda Shields.
 9 BRENDA SHIELDS: Good afternoon. It's a great
 10 opportunity to be here. I want to thank you.
 11 I'm a little behind. I'm hearing that Haile Gold
 12 Mine has been active in the community for
 13 approximately four years. Unfortunately, I have
 14 not had an opportunity to be proactive in this.
 15 But with your assistance, I do promise to be a
 16 full-fledged neighbor.
 17 I want to see what's best for Kershaw, and I
 18 want to see what's best for our economy and our
 19 neighborhood. I'm interested in the method of
 20 communication. For -- I received my first letter
 21 last month that indicated this was the meeting.
 22 I'm a little concerned about that. I'm also

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1 interested in the rewriting of the traffic
 2 pattern and alternative plan for that. The
 3 withdrawal process for Haile Gold Mine, what
 4 they're proposing. So I'm going to be a quick
 5 step. With your assistance and the assistance of
 6 all the ladies on the floor, in the room, I'll be
 7 able to catch up and find out what's going on,
 8 and I can better advise my family and my
 9 neighbors. Thank you.

10 LTC. CHAMBERLAYNE: Thank you, ma'am.

11 Our last speaker will be Bill Jenkins.

12 BILL JENKINS: Thank you, Colonel. Thank you for your
 13 service. It's good to be here. I'm Bill
 14 Jenkins. I'm from Orlando, Florida. I came in
 15 contact with the Haile family, if you will,
 16 through my brother-in-law who lives here in
 17 Kershaw.

18 I've been around the world. Done a lot of
 19 things. Met a lot of people. And when you can
 20 stand and look somebody in the eye time after
 21 time after time and ask 20 questions, some of
 22 which they're going to answer, some of them which

1 they won't, and that's significant in that they
 2 will not do that anywhere close to inside the
 3 national -- I'm an investor. That's my interest
 4 in this. And I can tell you from my experience,
 5 and this is -- you know, I realize the people
 6 here -- and they see it every day.

7 I come about twice a year, and it was
8 remarkable -- remarkable -- what they've done all
9 ready. And never do you get a question that
10 can't be answered. Never have I seen an effort
11 that was too big for them. They have the most
12 modern equipment. They do it right, and they do
13 it right, even that or they won't get done. I
14 just hope that this thing goes as well as the
15 last two years have. Thank you.

16 LTC. CHAMBERLAYNE: Thank you, sir. I want to thank
17 all of you. This has been an extremely
18 professional, constructive. You clearly care.
19 You've communicated clearly what your issues are
20 and concerns are, and I commend you all for that.

21 The public comment portion of this meeting
22 is now concluded. I would just like to thank

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1 everyone for their input tonight and your
2 patience. I would encourage you that if you have
3 more specific comments that you feel that did not
4 get actively addressed here tonight, please make
5 sure you utilize our website posted up above or
6 provide us comments via mail. We also have the
7 comment forums up front. Again, any means of
8 communication has equal weight.

9 I will be receiving your comments until
10 November 26th, one month from today, as part of
11 the scoping process. I really appreciate all of
12 you being here today -- tonight. It's been very

13 well attended. For the record, the time is
14 currently 8:45 p.m, and this meeting is
15 officially adjourned. Thank you.
16 (The meeting was concluded at 8:45 p.m.)
17 (*This transcript may contain quoted
18 material. Such material is reproduced as
19 read or quoted by the speaker.)
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21 only.)
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Appendix G

Copies of Comments Received during the Scoping Period for the EIS*

***Comments received from individuals are summarized in Appendix J.**

NOV 30 2011



HAILE GOLD MINE, INC.

November 28, 2011

Dr. Richard L. Darden, Project Manager
U.S. Army Corps of Engineers
Charleston District, CESAC-RE-P
69-A Hagood Avenue
Charleston, SC 29403

Re: Scoping Comments on Haile Gold Mine Environmental Impact Statement, P/N #SAC
1992-24122-41A-4_Lancaster_County

Introduction

These comments on the scope of the Environmental Impact Statement (EIS) being prepared by the U.S. Army Corps of Engineers (Corps) are submitted by Haile Gold Mine, Inc., the applicant for Clean Water Act (CWA) permit number P/N #SAC 1992-24122-41A-4_Lancaster_County.. We are pleased to provide these comments for consideration by the Corps.

Haile Gold Mine, Inc., owned by Romarco Minerals, Inc., is planning to bring 21st century gold mining to the South Carolina community that has a rich history of gold mining. The Haile Gold Mine site has been mined for gold, off and on, since the 1800's. Our proposed mining would use contemporary ore processing and water management to minimize environmental impacts. In compliance with state and federal permits, the Haile Gold Mine will set a high standard for environmental protection. We are proud to be part of the Lancaster County efforts to provide jobs and restore a strong economy.

The remainder of this letter provides comments on the scope of the EIS. If you have any questions or would like additional information, please feel free to contact us.

Comments

1. Focus the EIS Realistically to Assist Decision Making

The purpose of scoping is to establish the boundaries of an EIS so that it will support agency decisions. As set out in 40 C.F.R. § 1501.7(a), scoping allows the Corps to decide what issues are significant (“to be analyzed in depth in the environmental impact statement”) and also to “identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.”¹ In short, not every issue that is raised in scoping comments warrants study in the EIS. Rather, the scoping process requires the Corps to focus the EIS on those issues that are significant.

In this regard, we suggest that the EIS be focused in the following ways.

A. Provide Accurate Project Information.

Based on some of the comments provided during the Scoping Meeting held on October 27, 2011, it appears that some members of the public do not understand the proposed Haile Gold Mine. As a result, they may misunderstand the potential impacts of this project. The EIS provides an opportunity to give the public, as well as the decision maker, accurate information about the proposal. When the project is accurately explained, the careful attention to environmental concerns becomes clear. We address only a few examples of the potential for misunderstanding here.

For example, while gold mining of necessity involves earth moving to access the ore bearing rock, Haile will refill (backfill) pits after ore extraction as part of its mine plan (except for the final pits). In this way, although the project involves multiple pits, backfilling and concurrent reclamation of previously-mined pits will be performed. In addition, Haile will reclaim the landscape with grading and vegetation as it continues mining sequentially in additional pits.

There may also be misunderstandings about the actual reclamation potential. Visiting the Haile Gold Mine site today one can see the reclamation that was conducted to manage past mining effects. This on-site reclamation offers the potential for lakes, wetlands establishment and vegetated slopes on-site after mining (each of which are currently visible at the site.) As currently presented in the proposed mitigation plan, natural resource functions attained through the on-site reclamation will be supplemental to the off-site compensatory mitigation that Haile has proposed. It is important that the EIS accurately

¹ These guiding principles appear also in 40 C.F.R. §1500.4, which admonishes the reduction of paperwork by: “Discussing only briefly issues other than significant ones (Sec. 1502.2(b))”, “Emphasizing the portions of the environmental impact statement that are useful to decisionmakers and the public (Secs. 1502.14 and 1502.15) and reducing emphasis on background material (Sec. 1502.16),” and “Using the scoping process, not only to identify significant environmental issues deserving of study, but also to deemphasize insignificant issues, narrowing the scope of the environmental impact statement process accordingly (Sec. 1501.7).”

explain both the on-site reclamation as well as the compensatory mitigation plan, which does not currently account for the on-site potential.

Similarly, the project proposal includes careful handling of the chemicals used to extract gold from crushed ore. Cyanide will be used, but the cyanide process will occur within tanks (placed within secondary containment facilities), not in open leach heaps. The process water (slurry carrying tailings) containing cyanide will go through a cyanide detoxification again in tanks within secondary containment. This process water/tailings slurry will then be recycled on-site, not discharged. At the tailings pond, solids will settle and the water will be collected and recycled. With this advanced ore processing design, the public should not have concerns about cyanide entering the natural waterways of South Carolina.

The Haile Gold Mine has also developed an Overburden Management Plan that describes the methods that will be used to classify, characterize, segregate and manage overburden at Haile. The plan identifies materials that pose acid drainage or metal leaching risk so that they can be segregated and managed in a way that decreases environmental risks during and after mining.

Along these lines, it is important that the EIS recognize that after thorough study, there is no indication that endangered species, such as the Carolina heelsplitter mussel, will be adversely impacted by the project. The Haile Gold Mine Creek, Camp Branch Creek and Little Lynches River have been studied for the presence of such species. All surveys to date indicate that the heelsplitter is not found in the waters of interest at or near the mine site.

As can be seen from these few examples, accurate project information will explain the way that the Project minimizes and manages its environmental impacts.

B. Address Resources Within the Corps' Jurisdiction.

The scope of the EIS should be closely related to the Corps' jurisdiction over activities at the Haile Gold Mine, which is based on its authority to issue permits under Section 404 of the CWA for discharge of fill material into waters of the United States, including wetlands and streams. The EIS is to assist the Corps in evaluating the Haile Gold Mine Section 404 permit application. Issues that are not closely related to the Corps' permitting authority should not be addressed in depth in the EIS.

We recognize that the National Environmental Policy Act (NEPA), through the regulations of the Council on Environmental Quality (CEQ) and the Corps, can involve consideration of a wide range of environmental matters. However, the fundamental purpose of NEPA is to provide federal agencies with information to assist them in making decisions within their statutory jurisdiction.² The CEQ regulations emphasize that NEPA documents should be

² As provided in the CEQ Regulations at 40 C.F.R. § 1500.1 (c): "Ultimately, of course, it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork--even excellent paperwork--but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. These regulations provide the direction to achieve this purpose."

“analytic rather than encyclopedic.” For these reasons, the EIS should not range widely beyond the Corps’ regulatory jurisdiction.

The Corps’ NEPA procedures, 33 C.F.R. Part 325, Appendix B, Section 7.b (Scope of Analysis) also provide that the Corps must carefully distinguish between its regulatory authority and the scope of its NEPA evaluations. These regulations provide that:

The district engineer should establish the scope of the NEPA document (e.g., the EA or EIS) to address the impacts of the specific activity requiring a DA permit and those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review.

This standard (“sufficient control and responsibility”) is not a “but for” test, that asks whether the project cannot proceed absent a Corps permit. Rather, the standard looks at what level of control the Corps or other federal agencies might have over the entire project, including uplands. As summarized in Appendix B, Section 7.b (2):

(2) The district engineer is considered to have control and responsibility for portions of the project beyond the limits of Corps jurisdiction where the Federal involvement is sufficient to turn an essentially private action into a Federal action.

Because this standard can be confusing, the Corps’ NEPA procedures include examples of the degree of federal control that might convert a private action into a federal action for NEPA analysis:

Similarly, if an applicant seeks a DA permit to fill waters or wetlands on which other construction or work is proposed, the control and responsibility of the Corps, as well as its overall Federal involvement would extend to the portions of the project to be located on the permitted fill. ***However, the NEPA review would be extended to the entire project, including portions outside waters of the United States, only if sufficient Federal control and responsibility over the entire project is determined to exist; that is, if the regulated activities, and those activities involving regulation, funding, etc. by other Federal agencies, comprise a substantial portion of the overall project.*** In any case, once the scope of analysis has been defined, the NEPA analysis for that action should include direct, indirect and cumulative impacts on all Federal interests within the purview of the NEPA statute. (Emphasis added).

Applying these considerations here, the Corps has jurisdiction over the fill and disturbance of wetlands and streams, but there is virtually no “federal control or responsibility” over the gold mining project that will follow after the wetland and stream filling. Under the Corps’ NEPA procedures, this fits the example where there is not sufficient federal control to warrant NEPA analysis that goes beyond the subject matter of the Section 404 permit. While the

Corps' own regulations and the NEPA regulations allow presentation of information about a wide range of natural resources, the EIS nonetheless should focus on the resources within the Corps' jurisdiction.

C. Watershed Focus.

Another useful way for the Corps to ensure that the EIS provides information pertinent to its decision-making would be to focus the EIS on the particular waterbodies (and watersheds) that will or may be impacted by the Haile Gold Mine activities. This would mean looking at the two creeks, Haile Gold Mine Creek and Camp Branch Creek, which are on the project site and will be directly impacted by the project. These creeks drain into the Little Lynches River. It makes little sense to include watersheds or any other areas that will not be impacted by the project, other than to note that there will not be adverse impacts to such other areas.

We recognize that impacts to surface and ground water, including water quality consequences, will need to be addressed in the EIS. Haile is suggesting that the Corps must set a pertinent geographic scope for consideration of those matters. The project has the potential to directly or indirectly impact Haile Gold Mine Creek, Camp Branch Creek and the Little Lynches River. Even as the EIS addresses these waterbodies, it must acknowledge that discharges to surface waters will be subject to regulatory approvals other than the Corps'. The State of South Carolina has responsibility for issuing permits for discharges to surface waters, and will also have the opportunity to provide its views on water quality through the Section 401 water quality certification. The Corps' regulations make it clear that Corps decision making will respect the independent regulatory authority of other agencies.³

2. Alternatives

It is often quoted that the alternatives analysis is the "heart of the EIS." 40 C.F.R. § 1502.14. While this is true, it is equally true that the EIS must address reasonable alternatives, not every alternative conceivable to the imagination. The Corps should use the scoping process to screen out unreasonable alternatives before drafting the EIS.

For mining, reasonable alternatives start and end with locations where the ore can be found and feasibly extracted and processed. The project – Haile's gold mining – can occur only where there is an economically feasible gold reserve. Mining is not like a shopping center or housing development, which arguably might use alternative locations.

³ 33 C.F.R. § 320.4 provides:

(d) Water quality. Applications for permits for activities which may adversely affect the quality of waters of the United States will be evaluated for compliance with applicable effluent limitations and water quality standards, during the construction and subsequent operation of the proposed activity. The evaluation should include the consideration of both point and non-point sources of pollution. It should be noted, however, that the Clean Water Act assigns responsibility for control of non-point sources of pollution to the states. Certification of compliance with applicable effluent limitations and water quality standards required under provisions of section 401 of the Clean Water Act will be considered conclusive with respect to water quality considerations unless the Regional Administrator, Environmental Protection Agency (EPA), advises of other water quality aspects to be taken into consideration.

The “reasonable alternatives” considered under NEPA also should be sufficient to meet the “practicable alternatives” standard in 40 C.F.R. § 230.10(a).⁴ As provided in those regulations:

(2) An alternative is practicable if it is available and capable of being done **after taking into consideration cost, existing technology, and logistics in light of overall project purposes.** If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order **to fulfill the basic purpose of the proposed activity** may be considered. (Emphasis added).

For gold mining, the overall project purpose (and the basic purpose) is extraction of the gold ore where it is found and where it is economically feasible to mine and process it onsite.⁵ The project purpose should not be described as gold mining in the Carolina Slate. There is insufficient information to conclude that mining at other locations in such a vast region would be reasonable or practicable. Indeed, information provided in the Response to Request for Supplemental Information demonstrates, to the contrary, that other mining sites are not reasonable or practicable. At most, the EIS should provide information advising the public and the decision maker of the reasons why alternative locations in the Carolina Slate belt are not reasonable, and should screen out such potential alternatives.

Common sense along with regulatory standards governs the selection of alternatives to be addressed in an EIS. Haile Gold Mine has conducted the business evaluations that lead to its application for a Section 404 permit at the location identified in the permit application. The Corps’ regulations provide that the agency generally will respect and not “second guess” the business evaluations of private applicants.⁶ Mining can only occur where ore can be extracted feasibly. Considering all of the regulations that will apply to the Corps’ decision, the scope of alternatives should be limited to mining at the Haile Gold Mine site.

⁴ The standard reads:

Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

⁵ As the Corps considers the scope of alternatives to be analyzed in the EIS, it is also pertinent that the Section 404(b)(1) Guidelines specifically recognize that their standards, including the “practicable alternatives” test, must be applied flexibly, considering among other factors the location of the regulated fill. See 40 C.F.R. § 230.6(a), Adaptability. This confirms the common sense reality that certain projects, such as mining, can occur only where the ore is found; the alternatives selection and analysis must recognize this limitation on alternatives.

⁶ 33 C.F.R. § 320.4 (q) provides:

Economics. When private enterprise makes application for a permit, it will generally be assumed that appropriate economic evaluations have been completed, the proposal is economically viable, and is needed in the market place.

3. Cumulative Impacts

Based on comments provided to date, the Corps will need to make important decisions on the cumulative impacts to be addressed in the EIS. Pursuant to NEPA, the EIS will address direct, indirect and cumulative impacts. However, it is important that the Corps make clear that the level of detail (level of specific information) about possible cumulative impacts is far different from the level of detail that will be presented for direct and indirect impacts.⁷

The CEQ regulations, 40C.F.R. § 1508.7, provide the following definition:

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Not everything that anyone assumes might occur in the future qualifies for consideration as a cumulative impact. The phrase "reasonably foreseeable future actions" is the key to deciding what cumulative impacts should be addressed in the EIS. Actions that are remote or uncertain should not be considered cumulative impacts of the permit application pending before the Corps now. For example, there have been comments saying that additional mining of gold at other locations in the Carolina Slate Belt, near or far from the Haile Gold Mine, should be considered as cumulative impacts in this EIS. We suggest that such possible future gold mining, by Romarco Minerals or others, is not "reasonably foreseeable" and thus is not an appropriate subject for cumulative impacts analysis.

Given that some members of the public have raised possible additional mining as a "cumulative impact," the Corps may need to explain, in the EIS, why such actions do not qualify as cumulative impacts. It would be appropriate to describe the high level of uncertainty about any such future mining permit applications, since there are no such applications pending at the current time.

Moreover, it is important to consider whether the same or similar environmental consequences would attend on any such speculative future mining, since it is unlikely that the impacts would occur in either Haile Gold Mine Creek or Camp Branch Creek. Any discharges into waters of the United States (streams or wetlands) that might be associated with the speculative future mining cannot be quantified at this time. It is impossible even to describe such possible impacts qualitatively without more certainty about where such future mining might occur. This inability to provide reasonable information (quantitative or qualitative) about future mining demonstrates that the actions are not "reasonably foreseeable" for purposes of NEPA.

⁷ See 40 C.F.R. § 1508.8 for definitions of "direct" and "indirect" effects. For example, direct impacts include the earth moving and discharge of fill that adversely impacts wetlands and streams on the property. The EIS, like the permit application, will have quite specific information about these kinds of direct impacts. Indirect impacts include such things as off-site movement of pollutants or contaminants from on-site activities. These kinds of impacts can also be predicted with a fair degree of certainty.

The Corps will also need to decide an appropriate time frame for the “other past, present and reasonably foreseeable future actions.” With respect to past actions, we suggest that the history of the Haile Gold Mine site provides a suitable time frame. Notably, the history of this location shows little to no environmental impacts despite the mining that has occurred. Haile has been monitoring water quality from the reclaimed areas formerly mined at the location. The Corps will be able to include information that shows that the past mining activities are not contributing to any water quality impairments.

When considering how to address cumulative impacts, it is also appropriate to explain the difference between past and current regulatory regimes. Any potential future gold mines would be subject to strict State and Federal regulatory review and approvals (including Corps permits, if needed) when and if applications are filed. In this regard, Romarco Minerals stands ready to work with the Corps and its contractor to describe property that it owns in South Carolina which is not included within the pending permit application, as well as why the prospect of future mining permit applications at those properties is uncertain.

4. Thoroughly Address Socio-Economic Factors

An EIS must consider the socio-economic factors associated with a project, including the economic status and needs of the community. NEPA requires consideration of “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). The “human environment” includes the local community, the economy, the history of gold mining at the Haile Gold Mine site and many other socio-economic factors. The Corps must include a thorough evaluation of the social and economic factors associated with the proposed project.

The Corps recognizes the importance of socio-economic factors in its own regulations. As provided in 33 C.F.R. § 320.4, the Corps’ rules require giving great weight to these factors.

(a) Public Interest Review.

(1) The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. **The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments.** The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of this general balancing process. **That decision should reflect the national concern for both protection and utilization of important resources.** (Emphasis added.)

Indeed, the regulations recognize that property owners have a “right to reasonable use of their property.” See 33 C.F.R. § 320.4(g). The Corps also recognizes that it should not “second

guess” private investment decisions. 33 C.F.R. § 320.4(q), quoted in Note 6, above. These provisions acknowledge the importance of economic factors.

The people of Lancaster County, where Haile Gold Mine is located, strongly support the project. The county has a long history with gold mining and welcomes the return of gold mining at the Haile Gold Mine. These are important factors to be included in the EIS.

5. Utilize Existing Information and Respect State and Local Processes.

This EIS follows on the development of extensive information submitted in conjunction with the Permit Application and provided for the proposed Environmental Assessment (EA) during 2011. The applicant provided detailed technical information about the project, including environmental conditions, potential environmental consequences and mitigation. The Corps and its contractor CardnoEntrix should review and utilize this available information in preparing the EIS. This is consistent with the NEPA regulations, 40 C.F.R. § 1500.4.

The Corps’ regulations put the obligation on the applicant to provide information sufficient for review and processing of its application. *See* 33 C.F.R. § 325.1(d), (e). In particular, the Corps’ NEPA procedures, 33 C.F.R. Part 331, Appendix B, provide for reliance upon information from the applicant.⁸ Of course, the Corps must independently evaluate the information provided by the application, 40 C.F.R. § 1506.5(a). This is a role that can be performed by the Corps and its contractor, CardnoEntrix. Independent verification does not require the Corps or its contractor to duplicate the information. Rather, using the agency and the contractor expertise, the EIS can be based on existing information that is found to be accurate and reliable.

In this regard, the Corps must recognize that State and local agencies have developed information on this project to make decisions within their jurisdiction. CEQ regulations recognize the essential role that these state and local agencies have in the environmental evaluation of projects within their jurisdiction. As stated: “federal agencies shall cooperate with the state and local agencies to the fullest extent possible to reduce duplication between NEPA and state and local requirements.” 40 C.F.R. § 1506(b). For example, pertinent information can be found in Haile Gold Mine’s mining permit (submitted to the State Department of Health and Environmental Control). The Corps’ evaluation of the environmental impacts of the project must include appropriate deference to the state’s authority over mining, water quality and associated water related impacts. Matters within state and local jurisdiction should not be subject to protracted review in the federal EIS.

⁸ *See*, Appendix B, Section 3.

Development of Information and Data. *See* 40 CFR 1506.5. The district engineer may require the applicant to furnish appropriate information that the district engineer considers necessary for the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS).

See also, Appendix B, Sections 8.b and 8.f(1).

6. Minimize Delay of the NEPA Process

The NEPA regulations emphasize reduction of delay, urging agencies to use “the scoping process for an early identification of what are and what are not the real issues (Sec. 1501.7).” 40 C.F.R. § 1500.5(d). The Corps’ NEPA procedures provide that: “At the outset of the EIS effort, schedule milestones will be developed and made available to the applicant and the public. If the milestone dates are not met, the district engineer will notify the applicant and explain the reason for delay.” 33 C.F.R. Part 325, Appendix B, Section 8.h. Consistent with these provisions, the Corps should proceed expeditiously with this EIS. Haile requests that the Corps establish enforceable time limits on the process. *See* 40 C.F.R. § 1501.8(a)

Additional reasons also compel an expeditious process. The Corps determined to prepare an EIS in July, 2011, after reviewing detailed information that was assembled for an EA. Haile Gold Mine provided a significant amount of information to the Corps in support of an EA. The process of deciding to prepare an EIS took a considerable amount of time, which has prolonged processing of the permit application. In fairness, because the review of this permit application has already taken a great deal of time, the Corps should proceed promptly with the EIS. Prompt completion of the EIS will not “short change” quality, since so much information has already been assembled and provided to the Corps. As noted above, the Corps can minimize delay by relying to the fullest extent possible on state and local agencies, to eliminate duplication between NEPA and the state or local requirements.

Conclusion

We appreciate the opportunity to provide these comments on the scope of the EIS. We look forward to working with the Corps, other agencies and the public in completion of this EIS.

Sincerely,



Diane R. Garrett, Ph.D.
President & CEO
Haile Gold Mine, Inc.

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December 9, 2011

VIA E-MAIL AND U.S. MAIL

Dr. Richard L. Darden, Project Manager
CESAC-RE-P
69-A Hagood Avenue
Charleston, SC 29403
Richard.Darden@usace.army.mil

Re: Haile Gold Mine, Lancaster County, SC – Scoping Comments
P/N # SAC 1992-24122-4IA

Dear Dr. Darden:

The Southern Environmental Law Center submits these comments in partnership with of the South Carolina Wildlife Federation (“SCWF”), the Conservation Voters of South Carolina (“CVSC”), the National Wildlife Federation (“NWF”), the Waccamaw Riverkeeper (“WRK”), the South Carolina Environmental Law Project (“SCELP”), and the South Carolina Coastal Conservation League (“CCL”) in response to initiation of the scoping process for Romarco Minerals Inc.’s application for a Clean Water Act Section 404 permit to conduct surface mining operations at the Haile Gold Mine (“HGM”) “to construct and operate a gold mine in order to extract and process gold from the Haile ore body in Haile Gold Mine Creek at a location approximately 3 miles north of the City of Kershaw near the intersection of US Highway 601 and Haile Gold Mine Road, Lancaster County, South Carolina.” JPN at 1. On January 28, 2011, the Charleston District of the U.S. Army Corps of Engineers (the “Corps” or “Charleston District”) issued Joint Public Notice # SAC 1992-24122-4IA (the “JPN”) describing the intended project. On September 28, 2011, the Corps published its Notice of Intent to Prepare a Draft Environmental Impact Statement, and on October 27, 2011 it held a General Public Scoping Meeting. We attended the meeting and have visited the mine site with Romarco representatives twice. We appreciate the opportunity to submit these comments.

Romarco owns at least 9,000 acres of land in Lancaster County,¹ including the Haile Gold Mine, which has been in and out of operation under different owners for nearly two hundred years. Its most recent operations, under the control of Kinross Gold USA, consisted of

¹ Romarco Minerals Corporate Presentation, available at <http://www.slideshare.net/romarcominerals/romarco-minerals-corporate-presentation-may-2011> (last visited Dec 6 2011).

four mining pits, each between 100 and 200 feet deep, which were backfilled, closed and reclaimed between 2001 and 2005.²

According to the JPN, Romarco's proposed work consists of the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation of 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams.³ Phased mining will take place involving eight open pits over a twelve year period ranging in depth from 110 to 840 feet. In each pit, the surface layer, consisting of the existing seed bank and growth media, will be removed and stockpiled for use during reclamation activities. Next, several tons of overburden will be excavated and stockpiled for future backfilling of the pit. Once the overburden is removed, ore will be mined using six-inch diameter bore holes, explosives and wheeled loading equipment to load 100-ton capacity off-road mining trucks. Following ore removal, the pit will be backfilled with overburden, and ore will be processed in onsite facilities. Once the gold has been extracted, the remaining material will be treated to maintain a pH between 8.0 and 8.5 and concentration of less than 50 ppm of cyanide and pumped to an approximately 600-acre Tailings Storage Facility ("TSF"). Once mining ceases, the TSF will be encapsulated, and any water leaching from the TSF will be monitored and treated prior to discharge into the Little Lynches River. JPN at 1-2.

As discussed below, this proposal itself involves serious water quality and quantity threats to water resources. Even setting aside the potential long-lasting water quality threats, to place this proposal in perspective, the Corps has said that the 162 acres of wetlands and approximately seven linear miles of stream to be impacted by the mining activities here rival the total amount of wetlands authorized for filling for all the projects the Corps has permitted (combined) from 2008 to 2010 in South Carolina and exceeds the extent of streams impacted during the same timeframe.⁴ In addition to the significance of this one proposal, we are concerned that this project opens the door to mining of a scale and magnitude that South Carolina has never seen before. Although the region has a long history of gold mining, the proposed mine is far larger and the potential for environmental damage is far greater than we have seen in the past. Moreover, South Carolina's gold mining history is not problem-free. The Brewer mine site, for example, is now under CERCLA management by the EPA. For these reasons and others, we believe this project deserves the highest level of scrutiny and public involvement due under the National Environmental Policy Act, 42 U.S.C. § 4332 (2010) ("NEPA"); Section 404 of the Clean Water Act, 33 U.S.C. § 1344 (2010) ("CWA"); and other

² See Mining Environmental Management (Mar. 2005), available at http://www.miningenvironmental.com/_data/assets/issue_file_attachment/0006/120597/MEM0503scr.pdf (last visited Dec. 9, 2011).

³ It is our understanding that there may be a revised jurisdictional determination, delineating wetlands and streams on the site. We request that the Corps provide us with a copy of the new determination as soon as possible so that we can better understand the status of waters on the site.

⁴ Sammy Fretwell, Gold Mine Plan Draws Avid Support (Oct. 28, 2011), available at <http://www.thestate.com/2011/10/28/2025954/gold-mine-draws.html> (last visited Dec. 9, 2011).

relevant federal and state statutes. As such, we believe the following issues should be comprehensively addressed by the Corps in its evaluation of Romarco's pending permit application.

PROJECT SELECTION

Project Purpose

Under the National Environmental Policy Act and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 C.F.R. §§ 1500-1508), an environmental impact statement ("EIS") must be prepared by the responsible agency where an approved action would constitute a "major Federal action[s] significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The public scoping process is used to determine the range of issues to be addressed in the EIS and which issues are of greatest concern to the public; scoping also keeps interested parties informed and gives them an opportunity to participate in this process. See 40 C.F.R. § 1501.7.

NEPA requires that an EIS contain a statement of purpose and need for the proposed action. Courts regularly have held that the statement of purpose and need should be defined to reflect the objective, general need for the proposed activity rather than the specific, narrow course of action preferred by the applicant. The statement of purpose and need in an EIS must not be defined too restrictively, and may not be so narrowly defined as to reflect the applicant's preferred course of action rather than its underlying basic need and purpose. The Corps should remain vigilant in guarding against an overly restrictive statement of purpose as this application progresses to the EIS stage. To implement NEPA, the CEQ Regulations, EPA Guidance, and the CWA, the Corps must first present a correct statement of a project's "basic purpose." See 40 C.F.R. § 230.10(a)(3). After the Corps defines the basic purpose of the project, it must then determine whether that basic purpose is "water dependent." See id. An activity is "water dependent" if it requires access or proximity within a wetland to fulfill its basic purpose. Id.

Formulating Alternatives

In the process of reviewing this application, the Corps will be required to formulate a range of reasonable alternatives to be considered along with the actual proposal submitted by Romarco in its pending application pursuant to NEPA and the CWA. 40 C.F.R. § 230.10(a)(2). The Corps is also required to seriously evaluate a "no action" alternative.

Under NEPA regulations at 40 C.F.R. § 1502.4(c)(1), in the preparation of studies or reports, agencies should evaluate the proposal and its scope "geographically, including actions occurring in the same general location, such as body of water, region, or metropolitan area." Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1), directs the EPA to issue the Guidelines that define the circumstances under which dredged or fill material may be discharged into wetlands or other waters. Importantly, the Guidelines provide that the Corps shall not grant a Section 404 permit "if there is a practicable alternative to the proposed discharge which would

have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” 40 C.F.R. § 230.10(a). Under the 404(b)(1) Guidelines, activities authorized under Section 404 must avoid wetland impacts to the maximum extent practicable. An alternative to discharge to a wetland “is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose.” 40 C.F.R. § 230.10(a)(2). Where a discharge is proposed for a wetland or other special aquatic site, all practicable alternatives to the proposed discharge that do not involve a discharge to the wetland “are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.” 40 C.F.R. § 230.10(a)(3). In addition, if the activity associated with a discharge to a wetland does not require access or proximity to or siting in a wetland (*i.e.*, is not “water dependent”), practicable alternatives that do not involve wetland sites “are presumed to be available, unless clearly demonstrated otherwise.” 40 C.F.R. § 230.10(a)(3).

Because the construction of a “viable mine and mill to recover precious metals from the Haile gold deposit”⁵ is not a water-dependent activity, Romarco must “clearly demonstrate” that no practicable alternatives exist that do not require a discharge into wetlands or other special aquatic sites. 40 C.F.R. § 230.10(a)(3). See Shoreline Assocs. v. Marsh, 555 F. Supp. 169 (D. Md. 1983), aff’d, 725 F.2d 677 (4th Cir. 1984). “[T]he applicant and the [Corps] are obligated to determine the feasibility of the least environmentally damaging alternatives that serve the basic project purpose. If such an alternative exists . . . the CWA compels that the alternative be considered and selected unless proven impracticable.” Utahns for Better Transp. v. U.S. Dept. of Transp., 305 F.3d 1152, 1188-1189 (10th Cir. 2002). Under the CWA, “the test is whether the alternative with less wetlands impact is ‘impracticable,’ and the burden is on the Applicant . . . with independent verification by the [Corps], to provide detailed, clear and convincing information *proving* impracticability.” Id. at 1186 (emphasis in original).

IMPACTS

In addition to scoping issues related to purpose and need and alternatives, we urge that the impact analysis be suitably broad to be able to fully and fairly compare the potential location, mode, and functional alternatives. To ensure that an EIS fulfills the purposes underlying NEPA it “shall provide a full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R. § 1502.1. A full

⁵ It also appears that the applicant has chosen an unduly narrow statement of project purpose to artificially restrict the consideration of alternatives to a particular site of its choosing. See Simmons v. United States Army Corps of Engineers, 120 F. 3d 664, 666 (7th Cir. 1997) (saying “[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence)”). Given the amount of property that the applicant already owns in addition to the other potential gold reserves in the area, the Corps must carefully scrutinize the statement of project purpose as discussed above.

and fair discussion of environmental impacts includes a discussion of direct, indirect, and cumulative impacts for a given project. Id. § 1508.25(c)(3).

Water Quality and Quantity

The activities proposed in the new permit application may have severe ramifications for water quality in the surface and groundwater in the area. This proposal, which reportedly would comprise the largest gold mining operation east of the Mississippi River, includes the destruction of 162 acres of wetlands and about seven miles of streams. The proposed mining process also involves the use of toxic chemicals as part of its extraction process, which poses serious threats to water quality and aquatic species, including potential harm to the federally-listed Carolina heelsplitter. These risks are present not only in the added chemicals (e.g. cyanide for processing and nitrogen from explosives and breakdown of cyanide), but also in the metals and sulfates associated with acid drainage and selenium and arsenic associated with neutral or alkaline drainage from the open pits, waste rock piles, or impounded tailings. The hydrology of the area should be carefully studied to determine the expected impacts to surface water and groundwater, as well as the risks to water resources should there be a spill or other problem. For more information on water quality and quantity impacts, see Kuipers & Associates' Haile Gold Mining Scoping Comments (Dec. 7, 2011) (hereinafter referred to as the "Kuipers Report"), which is attached hereto as Attachment A.⁶ Baseline water quality data should also be well studied and established before any work is begun. Finally, in order to work 840 feet or more below the surface of the ground in an area where the water table is approximately ten feet deep, the HGM project includes extensive dewatering efforts, which should also be analyzed for feasibility and potential problems.

Socioeconomic Impacts

The CEQ Guidelines point out that the "human environment" is to be "interpreted comprehensively" to include "the natural and physical environment and the relationship of people with that environment." 40 C.F.R. § 1508.14. Agencies need to assess not only so-called, "direct" effects, but also "aesthetic, historic, cultural, economic, social, or health" effects, "whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8. When an EIS is prepared "and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment." 40 C.F.R. § 1508.14. The EIS is thus intended to provide a kind of full-disclosure procedure for decision-makers, who are then expected to consider the negative as well as the positive implications of potential courses of action, and the unintended as well as the intended consequences before they proceed. As the Kuipers Report states, mining operations have the potential to force a dramatic expansion of local infrastructure followed by a collapse in the tax base after the mine closes. See Kuipers Report at 7-8. This "boom and bust" cycle deserves careful analysis to minimize socioeconomic impacts to Kershaw and Lancaster County.

⁶ Resumes for James Kuipers and Sarah Zuzulock, who prepared the Kuipers Report, are included at Attachments B and C, respectively.

Habitat Loss and Threatened and Endangered Species

Wetlands host a wide variety of plants and animals and loss of wetlands translates to lost habitat. Section 7 of the ESA requires that each federal agency “shall insure that any action authorized, funded or carried out by such agency...is not likely to jeopardize the continued existence of any” listed species “or result in the destruction or adverse modification of” the species’ critical habitat. 16 U.S.C. § 1536(a)(2). In light of the toxic materials used in conjunction with the mining process, we encourage the Corps to fully examine potential impacts to the federally-endangered Carolina heelsplitter, which is known to inhabit Flat Creek. One concern is that the toxic materials used as part of the mining process will contaminate groundwater, degrading Flat Creek and harming the heelsplitter. For these reasons and others, the Corps must be sure to consult with U.S. Fish and Wildlife Service regarding potential impacts to endangered heelsplitters.

In addition, the existence of the tailing pits poses a hazard to local wildlife. The Ridgeway mine, which operated on a smaller scale several miles from the proposed site, was known to cause bird and bat deaths when animals drank from toxic ponds.⁷ The HGM proposal includes plans to backfill the pits and address water quality; however, more details are needed about how quickly the backfilling will take place, what the contaminate risk might be prior to backfilling, and what are the long-term impacts to wildlife.

Cumulative Impacts

The HGM proposal must be analyzed in the context of the potential for this mine to expand and for other mines to begin operations in the region. “Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. 40 C.F.R. § 1508.7. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. *Id.* The acres of wetlands that have been mined over the years along with the impacts on water quality and wildlife habitat make an investigation of cumulative impacts crucial. Further, it is our understanding that Romarco is actively seeking to expand its gold mining operations to other nearby areas within South Carolina that comprise part of the Carolina Slate Belt. As such, the Corps must carefully evaluate this proposal in combination with other anticipated activities. *See* 40 C.F.R. §1508.7 (saying NEPA requires the consideration of cumulative impacts, which are the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions). In sum, the evaluation of cumulative impacts is not only required in this instance, but it badly needed. The time and effort that the Corps puts into evaluating the cumulative impact of past,

⁷ Donald Clark, Jr., Bats, Cyanide, and Gold Mining, available at <http://batcon.org/index.php/media-and-info/bats-archives.html?task=viewArticle&magArticleID=505> (last visited Dec. 9, 2011).

present, and reasonably foreseeable gold mining proposals has the potential to have important benefits for this community and others in the region as they evaluate and plan for future mining proposals.

MITIGATION, CLOSURE AND RECLAMATION

Wetland Mitigation

As an initial matter, with respect to mitigation for aquatic impacts, our focus at this early juncture is ensuring that the company demonstrates during the NEPA and CWA permitting process that it has avoided and minimized impacts to wetlands and other waters to the maximum extent possible. As EPA has pointed out in their comments, the wetlands proposed for destruction are aquatic resources of national importance (“ARNI”), and as such, we believe the Corps needs to pay particular attention to avoidance and minimization strategies before jumping to mitigation. Given the extent of the wetland and stream impacts, this project presents a good opportunity for the Corps to implement the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources under section 404 of the Clean Water Act. *See* 73 Fed. Reg. No. 70, 19,594-19,687 (Apr. 10, 2008) (codified at 40 C.F.R. pt. 230.91 and 33 C.F.R. pt. 325 and 332) (hereinafter referred to as the “Rule”). For purposes of applying the new Rule to this project, we have the following recommendations and questions relating to wetland and stream mitigation.

First, the Rule places an emphasis on avoiding and minimizing impacts to difficult-to-replace wetlands, such as ARNI’s. *See* 73 Fed. Reg. 19605; *see also* 73 Fed. Reg. 19633. As such, the Corps must ensure faithful adherence to the required alternatives analysis and avoidance and minimization requirements.

Second, a central feature of the new Rule is the use of a watershed approach for purposes of all forms of mitigation, including permittee responsible and third party mitigation. *See* 33 C.F.R. § 332.3(c)(1) (“The ultimate goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites”). The Rule states further that:

The district engineer must use a watershed approach to establish compensatory mitigation requirements in DA permits to the extent appropriate and practical. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources.

Id. We understand there has been some evolution of the mitigation proposal due to watershed and eco-region concerns. We request that the Corps ensure compliance with the watershed

planning aspects of the Rule and explain how the proposed mitigation plan was guided by these important concepts.

Third, consistent with the Rule, the applicant should explain as part of this process to what extent it examined mitigation banks, in-lieu fee, and permittee-responsible mitigation options as part of its proposal.

Fourth, the NEPA and CWA process must involve functional assessment and evaluation of aquatic areas to be impacted. We understand that the WET technique has been used for the wetlands functional assessments, and EPA has raised concerns regarding those assessments and the company's conclusions regarding the degraded quality of wetlands at issue. This is an important issue that deserves greater scrutiny and explanation. It also appears to us from the materials we have reviewed to date that more detailed information is needed to assess the streams on the site.

Fifth, it appears as if the company is planning to rely on preservation for a significant amount of its wetlands mitigation package. If so, it will be important for the Corps to ensure that the proposal complies with the standards on preservation, which are contained in the Rule. In addition, if preservation is relied upon, we hope to see a significant amount of credits in order to offset the proposed aquatic losses.

Sixth, we are concerned about reliance on upland buffers as part of a wetland and/or stream mitigation package. Should the proposal rely too heavily on upland buffers, it would threaten to undermine this proposal's ability to comply with the national goal of no net loss of wetlands.

Seventh, the actual mitigation worksheets that the applicant, consultant, and Corps rely on should be made available as part of the EIS process with corresponding explanations regarding the factors used to complete such worksheets. How these worksheets are completed are important for purposes of devising wetlands mitigation plans, yet often times the sheets themselves are not made public nor are they explained in a manner that allows the public to understand them. Given the significant nature of the impacts at issue here, the Corps should require the maximum level of public disclosure here to ensure the public is fully compensated for the extensive aquatic impacts.

Finally, it is also important to note that if the scale and scope of the proposal evolves, then the scale and scope of the mitigation package will need to be rectified as well. If, for example, the applicant expands the size of the mining footprint and impacts additional aquatic resources, then the mitigation plan will need to reflect that evolution.

Mitigation Measures and Contingency Planning in the Operation of the Mine

The JPN describes planned measures intended to minimize impacts as the mine operates (such as backfilling the pits as they are mined and double lining the pits to prevent leaks).

However, even the best engineering plans should be carefully reviewed by outside experts and agencies, and contingency plans should be in place to manage unexpected problems. See Kuipers Report at 10-11 for more information on this aspect of the proposal.

Reclamation Bonding and Site Management after Closure

Romarco plans to monitor the HGM site for fifteen years after water treatment is complete. We view this commitment as only a part of the necessary reclamation and management plan that should be in place before the project moves forward. Because water quality impacts can continue or unexpectedly arise after closure, monitoring for leaks, changes in hydrology, wildlife impacts or water contamination should continue well after the mine is closed. It is also critical that Romarco have not only a comprehensive reclamation plan, but a bond that is large enough to secure the site's cleanup even in the case of unplanned expenses or an unplanned financial downturn by the company. See Kuipers Report at 11 for more information about potential cleanup costs and bonding. Romarco has not committed to a bond figure yet, and the Corps should use the EIS process to ensure not only that the mine is designed with impacts as minimal as possible, but that sufficient financial assurances are in place to address future impacts.

In addition, plans for use of the site after closure are still in development. The Corps should carefully consider what uses would best serve the community, and should learn from the experiences of other mines in the area. Information from Brewer, Ridgeway, or other gold mines in the region should be used to help inform and develop environmental and social best practices for HGM.

THE CORPS' PUBLIC INTEREST TEST

Pursuant to CWA permitting requirements, the Corps must examine this project carefully through the lens of its public interest test for 404 projects. As set forth in 33 C.F.R. § 320.1(a)(1), the Corps is required to consider the full public interest by balancing the favorable impacts of a proposed project against its detrimental impacts. Under 33 C.F.R. § 320.4(a), the Corps undertakes a public interest review of all permit applications, evaluating the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. 33 C.F.R. § 320.4(a)(1). The Corps must balance benefits which reasonably may be expected to accrue from the proposal against the project's reasonably foreseeable detriments. 33 C.F.R. § 320.4(a)(1). The public interest test is broad; it encompasses not only the NEPA factors addressed above, but the question of whether a project will truly benefit the public. See Fox Bay Partners v. United States Corps of Eng'rs, 831 F. Supp. 605 (N.D. Ill. 1993). In carrying out this review, the Corps should seek out information from other communities, particularly in the Western United States, on their economic and environmental experiences with cyanide gold mining, and the Corps should also weigh the intrinsic value of gold, its uses, and the desirability of its extraction versus the suite of environmental and economic risks associated with this proposal.

PUBLIC PARTICIPATION IN THE EIS PROCESS

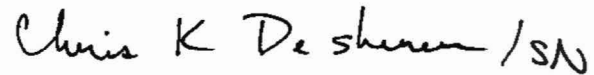
Given the complex nature of this project as well as its sheer magnitude and its potential for setting precedent throughout the region for similar activities, this proposal deserves the most rigorous level of review possible. As such, we recommend the Corps pay particular attention to the recommendations contained in the Kuipers Report for how this EIS process can be enhanced to tackle the relevant environmental, engineering, and economic issues here. As the Kuipers Report suggests, providing timely updates and information to interested members of the public as this project moves forward will be important.

Further, in order produce an adequate EIS in this instance, it is crucial that the Romarco technical team collaborate as much as possible with outside experts. SELC has retained Kuipers & Associates, a consulting group with more than 30 years of experience in mining engineering and environmental analysis, to help the conservation community evaluate this proposal. To date, the Kuipers team has been extremely helpful in providing perspective and expertise in evaluating this proposed mine, and we request that the Corps seriously consider our proposal to establish a technical working group (or other similar mechanism) to provide recommendations on key issues as this process moves forward. For example, such a group could provide feedback on current site conditions, modeling efforts, proposed engineering and construction studies, operational procedures, and plans for long-term maintenance of the site. This group of advisors could include participation by the Corps, Kuipers & Associates, the cooperating agencies, Romarco technical experts and engineers, Cardno-Entrix, and others.

We believe further that by providing a technical working group with full access to the hydrological and geochemical data and modeling for this project, the Corps could allow for potential problems to be addressed earlier in the process rather than later. In addition, it might also help to give the conservation groups, which have serious concerns about this proposal and others that appear imminent, the same level of confidence that the company seems to enjoy about the measures it is planning to take to protect the local community and the surrounding environment. Conducting a transparent and scientifically thorough EIS process is critical, and we suggest that the proposal for assembling a group of technical advisors is one way to achieve this goal and to avoid potential pitfalls down the road, such as litigation, regarding the sufficiency or adequacy of an EIS.

Thank you for the opportunity to submit these comments. We hope that the Corps gives this project the careful analysis required by law and necessary under the circumstances.

Very truly yours,

Handwritten signature of Christopher K. DeScherer, with the letters "SN" written at the end.

Christopher K. DeScherer
Senior Attorney

Handwritten signature of Sally Newman.

Sally Newman
Associate Attorney

cc: William Wenerick, SCDHEC
Morgan Wolf, USFWS
Jaclyn Daly, NMFS
Kelly Laycock, EPA
Bob Perry, SCDNR
Ben Gregg, SCWF
Jim Murphy, NWF
Ann Timberlake, CVSC
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Exhibit A

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December 7, 2011

To: Christopher K. DeScherer, Senior Attorney, Southern Environmental Law Center

From: Jim Kuipers and Sarah Zuzulock, Consulting Engineers, Kuipers & Associates

Re: **Haile Gold Mine EIS Scoping Comments**

The following comments have been prepared by Kuipers & Associates on behalf of the Southern Environmental Law Center (SELC) related to the U.S. Army Corps of Engineers (USACE) Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Haile Gold Mine near Kershaw, Lancaster County, South Carolina.

Kuipers & Associates is an engineering group based in Montana with more than 30 years of experience in the mining industry with a focus on the environmental aspects of projects including engineering design, permitting, operations, reclamation and closure, financial assurance, compliance and conflict resolution. Kuipers & Associates has an extensive mining operations background and has worked on the development and implementation of new and innovative technologies for the extraction and processing of minerals as well as reclamation and closure including water treatment at dozens of projects in the U.S. and abroad. Kuipers & Associates has specialized since 1996 in providing technical engineering and science support to a variety of non-governmental public interest organizations as well as local, state, federal and tribal governments on mining environmental and other natural resource extraction issues.

Kuipers & Associates has participated in the review of more than 100 mining related Environmental Impacts Statements (EIS) and maintains possibly the largest library of mining related environmental review documents (more than 300 volumes) in the U.S. We have conducted extensive analysis of Environmental Impact Statements with respect to mineralogy and geochemistry, hydrology, meteorology, modeling and mitigation measures and their effectiveness and published our work in a document titled *Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements* (Kuipers et al, 2006). We currently provide technical assistance to the U.S. Environmental Protection Agency (EPA) in the review of Environmental Impact Statements at mining projects in EPA Regions Nine and Ten. We have provided in the past and currently provide assistance to EPA in the development of its mine cleanup and financial assurance guidance. Our work also includes publication of *Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art* (Maest et al, 2005).

It is our intent in the comments that follow to bring our breadth and depth of experience in mining, environmental, and related issues, both from a technical standpoint and also from a societal viewpoint. We have participated in the past in many EIS processes which have been adversarial, prolonged, and unaccomplished, and in most cases failing to fulfill their intended purpose. Our comments are intended to suggest to SELC, and by proxy to the U.S. Army Corps of Engineers, South Carolina Department of Health and Environmental Control, Romarco Gold, and other participants in the development of this EIS that the process can be conducted in a cooperative, efficient, and responsible manner that fulfills the intended purpose of an EIS under the National Environmental Policy Act, namely that of giving the project a **hard look** from a technical perspective, ensuring consideration of **all reasonable alternatives** in the final process configuration, and the identification of both **immediate and contingency mitigation measures** which might be required by the agencies in their final Record of Determination or related permitting decision.

Executive Summary

Our comments can be summarized as follows:

- The project proponent has proposed a major gold mine that would utilize state-of-the-art methods to protect the environment based on experienced and knowledgeable mining company staff and consultants. Proposed methods such as backfilling of the open pits and submerging potentially acid forming waste rock, together with tailings facility closure, represent progressive approaches to what have been problematic issues at other similar mine sites. These proposals are encouraging, and we hope they are emblematic of the company's intent to do things right.
- Unfortunately, even the best of intentions need to be recognized as not being infallible. One of the results of past EIS efforts and resulting litigation has been a tendency for the project proponent to portray each subsequent new project as having all the answers to past problems and therefore not subject to any reasonable chance of failure. Based on our meetings with Romarco staff and consultants we believe their greatest challenge will be to allow the regulatory and public stakeholders to question the adequacy of their proposed plan and to be open to potential changes and in particular to consider reasonable contingencies. It is not Romarco's business to plan for a drastic drop in the price of gold, however history would suggest that the regulatory community and industry must recognize this as a significant risk that should be borne by the mine operator and not the public. The greatest risk to this project is not the proposal itself, but the potential for the proposal to be disrupted for economic reasons during operations or reclamation and closure and result in an inability for the company to meet its regulatory obligations. We strongly encourage the USACE to encourage questioning, consideration of changes, and identification of contingencies as part of the EIS, and Romarco to encourage and openly engage in such discussions.
- Consideration of key issues identified in these comments such as water quality and quantity, wetlands, wildlife, noise and dust impacts, worker and community safety, and

economic impacts on local services and communities should involve significant and substantive stakeholder involvement. We recommend involvement take place at two levels: 1) at the technical EIS process level, and 2) as part of the EIS public involvement process.

- We strongly recommend that the USACE consider a means of substantively encouraging public participation in the EIS process by forming a Technical Working Group or similar advisory panel, consisting of and/or assisted by highly qualified staff or consultants representing various stakeholders. The group or panel would be tasked to consider and provide recommendations to the EIS contractor in such areas as alternatives development and analysis, review of baseline and background geochemistry and hydrology as well as applicable modeling and associated predictions information, consideration of proposed reclamation and closure methods, and identification of mitigation and contingencies.
 - We similarly recommend that the USACE encourage the other relevant state and federal agencies to actively and substantively participate in the EIS process. It would be beneficial in our opinion for any consideration of discharge permits, as well as reclamation and closure permitting, to be a part of the EIS, and for the respective federal and state agencies to be involved in this effort through information sharing, input and coordination.
 - Finally we recommend that the USACE recognize the high level of community interest in this project, both those who are for or whom might have reservations, and anticipate and allow for an extraordinary level of public information including providing regular updates to information on the EIS website and quarterly public meetings prior and in addition to the publication of the draft EIS and the required public comment hearing.
- The following are the key subjects identified in our detailed comments:
 - Wetland and Stream Impacts
 - Water Quality Impacts
 - Water Quantity Impacts
 - Cumulative Impacts
 - Additional reserves
 - Additional mines
 - Socioeconomic Impacts
 - Other Impacts
 - Alternatives Development and Analysis
 - Reclamation and Closure Financial Assurance
 - Stakeholder Participation

Potential Impacts of Proposed Project

Potential impacts associated with large industrial scale gold mining projects have been well documented at other mine sites in the U.S. including mines in South Carolina. Gold was first discovered in South Carolina in 1827, and South Carolina has a history of previous gold-mining

activities. In 1992, gold production from the four major mines in South Carolina (Haile, Brewer, Ridgeway and Barite Hill) was sixth in the nation. Although all but one of these major mines closed in 1997, the Carolina Slate Belt region continues to attract attention from industry.

The proposed Haile Gold Mine is located within the Carolina Slate Belt trend between the Ridgeway Mine and the Brewer Mine. All three mines have historically resulted in the formation of acid mine drainage and varying degrees of associated impacts. The 1,000 acre Brewer Gold Mine was listed on the EPA CERCLA National Priorities List (Superfund) in 1999 to allow for EPA to continue operation of a water treatment plant to prevent acid mine drainage and metals from impacting Little Fork Creek and the Lynches River¹. Superfund is the Environmental Protection Agency's program to clean up hazardous waste sites, including mines, and compel responsible parties to reimburse for EPA-lead cleanups.

This EIS should include a thorough review of both regional and national mine history and environmental impacts for both historic and modern mines to allow for a more complete understanding of the potential impacts and mitigations common to large mine operations.

The extraction and beneficiation of gold using low-cost high-tonnage open pit mining and cyanide leach methods as proposed for the Haile Project has the potential to result in significant environmental and socioeconomic impacts prior to, during and in some cases long-after mine operations have ceased. The particular issues we have identified and discuss in more detail in the following sections include wetland and streams impacts, water quality impacts, water quantity impacts, cumulative impacts, socioeconomic impacts, and other impacts.

Wetland and Stream Impacts

The USACE should address wetlands as one of the key issues in the EIS. Every effort should be made to determine if alternatives exist to the proposed plan which would result in the destruction of 162 acres of existing wetlands and 38,775 linear feet of streams. Alternatives should be considered and developed to avoid or otherwise minimize wetlands and stream impacts. Similarly, alternatives to any proposed usage of streams or discharge points that would utilize or impact existing streams or wetlands should be considered as part of the EIS.

Loss of streams through pit development and associated impacts to watershed beneficial uses, aquatic integrity and fisheries should also be considered in this EIS. The mine area includes proposed open pits and waste storage areas in the vicinity of Haile Gold Mine Creek, including development of Ledbetter and Snake pits that encompasses 7.2 miles of upper Haile Gold Mine Creek planned for backfill at closure. According to the *Haile Gold Mine Post-Closure Water Quality Impact Evaluation* (Schafer and Schlumberger, 2011), upper Haile Gold Mine Creek waters will be entirely diverted into Ledbetter Pit at closure to speed water level recovery, with predicted discharges from the pit to lower Haile Gold Mine Creek approximately 30 years post-closure that result in increased major ions, TDS and some metals (antimony, cadmium, copper, nickel and thallium).

¹ EPA Brewer Mine Summary - <http://www.epa.gov/region4/waste/npl/nplsc/brwglldsc.htm>

Consistent with Clean Water Act regulations, we recommend that the applicant also:

- Provide a thorough explanation of Section 404 and other USACE and other federal and state agency regulatory requirements,
- Provide background information as to the site-specific and regional wetlands and streams ecology,
- Identify potential wetlands and streams avoidance and mitigation approaches and develop alternatives, and
- Prioritize objectives (e.g. avoidance versus mitigation) and identify the alternative most likely to succeed in meeting those objectives.
- Assess potential for unforeseen or unexpected impacts to wetlands or streams and identify appropriate contingency plans for mitigation.

Water Quality Impacts

The history of significant water quality impacts at both historic and modern gold mining sites is well documented by the U.S. EPA and others. Although mining activities today are highly regulated, resulting in proposals that are less damaging than historical mining activities, and while efforts to control impacts from mining continue to improve, the fact remains that major mining proposals still pose a severe threat to the natural environment. As a result it can be anticipated that nearly any major gold mining site, such as the proposed Haile Gold Mine, has significant potential to result in a variety of ground and surface water quality impacts. As discussed in more detail in our Predictions report (Maest et al, 2005), determination of water quality impacts requires identification of all potential sources, pathways and receptors as well as consideration of proposed and additional mitigation measures. Potential contaminants range from added chemicals (e.g. cyanide for processing and nitrogen from explosives and breakdown of cyanide) to metals and sulfate associated with acid drainage or selenium and arsenic associated with neutral or alkaline drainage from the open pits, waste rock piles, or impounded tailings.

Our experience, as detailed in our Comparisons report (Kuipers et al, 2006) demonstrates that the prediction of impacts to water resources as a result of major mine developments has been historically inaccurate through the NEPA process. This has particularly been true at mine sites typical to that of the proposed Haile Gold Mine in that at mines in close proximity to water resources (less than 200 feet from groundwater and less than 1 mile from surface water) the predicted impacts to water quality and their associated mitigations have been inaccurate in 85% of cases. Groundwater resources at Haile Gold Mine are generally located 5 to 50 feet below the ground surface, and surface water resources are in the immediate vicinity of proposed mine operations. While it was the stated intention in all the Environmental Impact Statements which were examined to meet water quality requirements, the actual ability to do so is more dependent on removal from close proximity to water rather than the mitigation methods proposed. As discussed in the Comparisons report, liners leak whether they are intended to or not, geochemistry is difficult to predict and even the best efforts are not highly reliable, and mitigation methods that should work often times do not function as intended. For this reason, we strongly recommend that the USACE and other regulatory agencies consider the multiple failure modes which are identifiable and consider their potential effect on the environment as well as

likelihood of occurring, and consider additional mitigation measures to address the high potential for water quality impacts that would result from the proposed plan.

Acid Mine Drainage

The Haile Gold Mine has a very obvious association with acid mine drainage in the past and will certainly present similar challenges in the future. While the mitigation proposed by Romarco for acid mine drainage recognizes this potential, and is fortunately based on actual site experience rather than just speculation, we are concerned as to the long-term viability for the proposed measures (e.g. source control through engineered covers) as they have not been tested and proven effective over time. We also are concerned that the mitigation will require long-term operation and maintenance, such as re-construction of the engineered cover, which could place a burden on taxpayers in the future if not adequately recognized and addressed. At other mine sites, acid mine drainage has resulted in an order-of-magnitude (10 times or greater) increase in reclamation and closure costs and in some cases has resulted in treatment-in-perpetuity requirements. We recommend that as part of the EIS process, water quality information from other analogous mine sites in South Carolina be collected and examined, together with the effectiveness of applied mitigation measures. The USACE must address acid mine drainage and the proven effectiveness of the proposed mitigation measures, and alternative or additional mitigation measures, as a key issue in the EIS.

Arsenic and Selenium

The USACE should also be aware of problems with neutral/alkaline drainage associated contamination. At numerous gold mine sites both arsenic and selenium, which are semi-metals that behave differently in the environment, have proven to be serious contaminants resulting in wildlife mortality and other impacts. In addition, some efforts to mitigate acid drainage, such as lime addition result in increasing alkalinity, and actually cause elements such as arsenic and selenium to increase in solubility and therefore concentration in water resources. Failure to address these potential contaminants at other mines has resulted in significant environmental issues that have proven difficult and expensive to mitigate. This issue together with the potential for acid drainage strongly suggests that a thorough and exhaustive analysis of potential geochemical issues through both static and long-term kinetic tests, together with water quality and water balance modeling must be conducted in support of the EIS. We further recommend that the USACE and other regulators utilize our Predictions report, which is recognized by the U.S. EPA, and the industry's Guide to Acid Rock Drainage (GARD), in their deliberations.

Water Quantity Impacts

Groundwater hydrology impacts as a result of mine dewatering and other activities should be addressed, including the potential of lowered water tables to impact wetlands and agricultural water use. Operational use of water may be significant and potential impacts to perennial streams, groundwater resources, agricultural and domestic water users should be considered in this EIS.

Hydrological investigations that identify likely pathways relative to both sources and receptors should be completed and evaluated with respect to the proposed plan and various alternatives.

Both proposed and contingency mitigation measures should be considered with respect to those pathways. Modeling should be performed to aid in this effort with the intent to calibrate the model based on actual monitoring data during the mine life.

Cumulative Impacts

It is highly likely if not certain that Romarco will identify additional minable reserves associated with the present mining proposal. Given the present and potential future price of gold it is plausible that Romarco could revise its mining plan to encompass one “super-pit” versus the present multiple pit proposal. Romarco could also expand its existing reserves resulting in the need to significantly increase its tailing and waste rock disposal capacity. Romarco has recently publicized its discovery of high-grade ore intercepts through their exploration drilling program, and has announced it is contemplating the possibility of expanding their plan of operations to include underground mining in addition to the proposed open pit mining^{2, 3}.

In many ways, the present proposal by Romarco is premature and would be better left for consideration once the minable reserves associated with this particular project are more certain and an operations and reclamation and closure plan conceptualizing the entire deposit and associated impacts is available. Because historically smaller proposals have led to less scrutiny of and therefore less onerous requirements for subsequent larger proposals, the USACE and other regulatory agencies are encouraged to consider the likely ultimate cumulative impacts should additional open pit or underground reserves be identified in the future for this project.

It is also clear that Romarco’s discovery of significant minable reserves in the Carolina Slate Belt is not likely to be isolated, and additional major gold mining proposals are likely if not inevitable. The discoveries could take place at existing sites or at new sites including potentially in close proximity to the proposed Haile Gold Mine.

The geographic and temporal scope of the cumulative effects analysis in the EIS should take into account both the potential for the proposed mine to expand significantly, but also the potential for other mines to follow in its path. While one mine as presently proposed might only have a particular level of impacts, we are concerned that cumulative impacts from future mine expansion or more than one mine would result in significant overall degradation of the environment as well as the local way-of-life.

Socioeconomic Impacts

Romarco currently employs 150 personnel to complete mine exploration and permitting activities, and plans to employ 500 personnel during mine construction and development, then 250 personnel during mine operations. This fluctuation in work force can negatively affect community-based services if the local government is not prepared and adequately funded to address the additional service needs (road maintenance, larger schools, emergency services, etc.)

² Romarco website project overview – <http://www.romarco.com/Our-Projects/Haile/Haile-Overview/default.aspx>

³ Romarco website newsroom – <http://www.romarco.com/Newsroom/News-Releases/News-Releases-Details/2011/Romarco-encounters-new-zone-at-Haile---Palomino-returns-701-meters-of-55-GT-gold1127136/default.aspx>

required with development of a large-scale hard rock mine. Socioeconomic impacts to Kershaw and surrounding communities should be carefully considered in this EIS.

Socioeconomic impacts can be addressed in a number of ways. Most often, mining companies undertake a certain level of social assistance, particularly when they are operating and making a profit. However, some states have recognized that the greatest impacts occur after the mine is through operating, and frequently the mine operator is no longer present to assist with addressing those impacts. For example, the state of Montana established the Hard-Rock Mining Impact Act⁴ (HRMIA) in 1981, which requires mineral developers planning hard-rock mineral developments to work with affected local governments and ensure that local government services and facilities are available when and where they are needed, and that the increased cost of these services will not burden the local taxpayer. In 1983, the Montana Legislature also addressed on-going increased costs in taxing jurisdictions that do not include hard rock mineral development within their boundaries and the fiscal and economic impacts of major workforce reduction and mine closure.

Under the Hard-Rock Mining Impact Act, each new large-scale hard-rock mineral development is required to prepare a local government fiscal Impact Plan. In the plan, the developer is to identify and commit to pay all increased capital and net operating costs to local government units that will result from the mineral development. The Impact Plan is a condition of the operating permit issued to the developer by the Montana Department of Environmental Quality.

Other Impacts

Other notable and in some cases significant impacts include wildlife hazards, noise, air quality and traffic associated with major gold mining operations such as the proposed Haile Gold Mine. Wildlife hazards include process ponds, tailings impoundments, and other features at mine sites that present either physical or chemical risks. Noise from vehicle backup alarms, open pit operations and blasting, crushing and milling can all be significant, particularly to persons in close proximity to mine sites, such as would be the case surrounding the Haile Gold Mine. Air quality, particularly in terms of fugitive dust, is another important concern that needs to be studied in the EIS. Traffic, particularly during shift changes and at other busy times (e.g. during high level of contractor presence), may present public safety hazards as well as inconvenience. The EIS should further identify and address these potential impacts specific to the Haile Gold Mine proposal and consider requiring additional mitigation to address these and additional other impacts raised in public comment.

Alternatives Development and Analysis

We recommend the USACE consider the following process for the EIS:

- 1) Identify and prioritize significant impacts
- 2) Develop alternatives to the proposed plan to address those impacts
- 3) Analyze the proposed plan and alternatives for critical failure modes and effects

⁴ Hard Rock Mining Impact Act - <http://comdev.mt.gov/HRM/hrmiact.mcp>

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- 4) Utilize adaptive management planning in the determination of primary and contingency mitigation measures

Tailings and waste rock disposal facility locations and alternatives should be considered to avoid and minimize disturbances to wetlands and surface waters, and minimize long-term monitoring and maintenance requirements. The alternatives must consider both “location” alternatives for waste rock/overburden, tailings, and associated roads, as well as “operational” alternatives including options for processing and mining that could reduce or eliminate wetlands impacts. Underground mining, for example, with a requirement to backfill acid generating wastes could result in a significant reduction of waste rock and tailings disposed of on the surface.

The USACE should recognize that the proposed reclamation and closure plan is a key part of any mining project and should be fully detailed and evaluated in the EIS. This should include consideration of reclamation and closure alternatives in terms of proposed mitigation measures, and weigh into the preferred alternative selection should a certain alternative result in a shorter duration of water management requirements, long term monitoring and maintenance obligations, and associated closure costs. The plan should address interim closure (e.g. in the event of bankruptcy), closure and post-closure aspects, including any requirements for long term operation, monitoring or maintenance.

It is recommended that the USACE reply upon accepted evaluation tools, including Multiple Accounts Analysis (MAA⁵) and/or Failure Modes and Effects Analysis (FMEA⁶) or hybrid process to assist in evaluation of the proposed plan and alternatives considered. References describing both methods are included as a footnote below.

The Multiple Accounts Analysis (MAA) process provides a clear, transparent and defensible framework for multiple stakeholders to evaluate and rank specific alternatives based on both qualitative and quantitative criteria, and is commonly used to evaluate mine operation and reclamation and closure alternatives by weighing the advantages and disadvantages of each alternative. The MAA process involves three basic steps:

1. Identify the impacts (negative and positive) to be included in the evaluation;
2. Quantify the impacts (negative and positive); and
3. Assess the combined or cumulative impacts for each alternative to develop a preference list through ranking, scaling and weighting impacts.

⁵ MAA References:

“[Use of the Multiple Accounts Analysis Process for Sustainability Optimization](#)” by Robertson Geoconsultants, February, 2004.

“[Review of the Multiple Accounts Analysis Alternatives Evaluation Process Completed for the Reclamation of the Zortman and Landusky Mine Sites](#)” by Shaw SC, Robertson AG, Maehl WC, Kuipers J, Haight S, August 2001.

⁶ FMEA References include:

“[Failure Modes & Effects Analysis \(FMEA\)](#)” by Robertson Geoconsultants.

“[Failure Modes Effects Criticality Analysis \(FMECA\) – Giant Mine Remediation – Mackenzie Valley Environmental Impact Review Board – Information Request 12 Response](#)” by AECOM and Golder Associates Ltd., June, 2011.

“Introduction to the Systems FMECA Method for Risk Assessment” by Golder Associates. Available upon request.

The Failure Modes and Effects Analysis (FMEA) is a methodology used to assess risk, or the potential for failure of structures and/or processes; and the associated effects of these failures on the surrounding ecosystems, human health and safety. This process is commonly used by mining companies to assess the risk that their reclamation and closure plans, and potential for subsequent failures, will have on the surrounding environment and/or community.

In general, the FMEA process identifies significant and potential failure modes and their associated impacts (in this case for a proposed mine development) and existing controls available to mitigate risk. The failure modes and mitigations identified are then evaluated through a risk matrix that accounts for the likelihood of failure and severity/consequence of that failure.

Adaptive Management Planning

Adaptive management planning is an important tool in achieving continual improvement in environmental performance through continued and systematic evaluation of monitoring and management tools utilized to revise and improve an environmental management strategy. Mine operators can use adaptive management methods to refine an approach to water management through review of water monitoring program results, or modify a planned design for closure of waste disposal facilities through monitoring the performance of existing engineered covers. Adaptive management should also include a broader evaluation of new technology developments relative to hard rock mining development, operations and environmental management.

Adaptive management planning is an important tool this EIS process should rely upon to determine required primary and contingency mitigation measures for predicted impacts associated with the proposed Haile Gold Mine. This type of planning can identify areas of uncertainty and provides a science-based evaluation process used to adjust planned mitigation measures.

Adaptive management, as defined by the National Research Council, is a decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders.

Adaptive management is designed to improve understanding of how a system works, so as to achieve management objectives. Models are used in adaptive management to embed hypotheses about system behaviors and enable managers to predict the impacts of their activities. These predictions are the basis for learning later on. Once activities are implemented, the testing of underlying model assumptions against monitoring data provides the foundation for learning and the improvement of management based on what is learned.

Adaptive management planning is about taking action pursuant to desired outcomes. In adaptive management, the outcomes of decisions, assessed through follow-up monitoring, are compared against explicit predictions of those outcomes, with the comparative results fed back into decision making to produce more effective decision making. Actual and expected results can differ for many reasons: underlying assumptions are wrong, actions are poorly executed, environmental conditions have changed, monitoring is inadequate, or some combination of these problems. An adaptive approach helps isolate inadequacies in a management application, allowing adjustments to be made and management to be improved.

Reclamation and Closure/Financial Assurance

Reclamation and closure planning, and the associated financial assurance, is an important aspect for consideration in this EIS. Reclamation and closure requirements and the related short and long-term costs for hard rock mines with associated acid mine drainage can range from \$10 million to several hundred million dollars per mine, with costs closer to the \$100-\$500 million dollar range when water quality impacts such as acid mine drainage require water management and treatment into perpetuity (100 – 500 years is commonly considered in closure costs).

We strongly encourage the USACE to include consideration of the amount of financial assurance that would be required to be secured by the company on behalf of the State or Federal Government in the EIS, and believe EPA would provide assistance to the USACE in this regard. At present EPA is undertaking a rule-making to address hardrock mine financial assurance and given South Carolina and the USACE's relative lack of experience and regulation in this regard we recommend they look to EPA for guidance in this area.

Stakeholder Participation

The USACE is encouraged to conduct the EIS process in an inclusive and transparent manner to ensure that all concerns are thoroughly and adequately addressed and the process meets public expectations. This evaluation should include a multi-stakeholder process for development and evaluation of alternatives, with stakeholder representatives from the city/county government, state (mining reclamation and water quality) and federal agencies, local citizens, environmental/conservation groups, the project proponent, as well as potential opponents. A multi-stakeholder process will serve to ensure that predicted impacts are mitigated and community concerns are addressed, as well as minimize legal challenges through the permitting process.

We also encourage the USACE to form an expert panel of technical advisors with representation from supporting agencies as well as the highest level of consulting technical expertise that can be obtained for the project. Many other mining projects with associated challenges have benefited from the inclusion of high levels of expertise in the form of review panels or task forces created for the purpose of advising the EIS agency and contractor. In particular, we recommend this approach be used to develop and evaluate a full-range of alternatives/options and to evaluate the proposed mitigation and its effectiveness as well as alternative or additional mitigation measures.

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Exhibit B

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SUMMARY OF EXPERIENCE

Over 30 years experience in mining and environmental process engineering design, operations management, regulatory compliance, waste remediation, reclamation and closure, and financial assurance. Over 15 years experience providing technical assistance to public interest groups and tribal, local, state and federal governments on technical aspects of mining and environmental issues.

EDUCATION

Montana College of Mineral Science and Technology, B.S. Mineral Process Engineering, 1983.

PROFESSIONAL REGISTRATION

Professional Engineer (PE Mining/Minerals): Colorado (No. 30262), Montana (No. 7809 & Corp. No. 197)

PROFESSIONAL EXPERIENCE

1996 to Present **Kuipers & Associates/J. Kuipers Engineering, Butte, MT.**

- *ABN AMRO Bank, Netherlands:* Consulting Engineer, confidential mine evaluation.
- *Amigos Bravos, Taos, NM:* Consulting Engineer, MolyCorp Questa Mine, technical review committee and working group member in reclamation and closure/closeout permitting and bonding process.
- *Anaconda Deer Lodge County, MT:* Consulting Engineer/Project Manager, Anaconda Superfund Site, provide technical services related to institutional controls, property conveyance and redevelopment, property and facility operation and maintenance, review of regulatory documents, renewable energy development, air and water monitoring and other tasks related to county involvement in Superfund activities.
- *Bannock Technologies, Pocatello, ID:* Consulting Engineer, Shoshone Bannock Tribe mining oversight project studies.
- *Blackfoot Legacy, Lincoln, MT:* Consulting Engineer, McDonald Project, review of project feasibility and environmental issues.
- *Border Ecology Project, Santa Fe, NM:* Consulting Engineer, Cananea Project (Mexico), consulting engineer mine reclamation and closure planning.
- *Cabinet Resource Group, Noxon, MT:* Consulting Engineer, Rock Creek Project, review of proposed tailing impoundment.
- *Clark Fork River Technical Advisory Committee, Missoula, MT:* Technical Advisor, Clark Fork River and Milltown Reservoir Operable Units, Upper Clark Fork Basin Superfund Sites.

- *Center for Science in Public Participation, Bozeman, MT:* See separate description below.
- *Citizens' Technical Environmental Committee, Butte, MT:* Technical Advisor, Butte-Silver Bow Site Operable Units, Upper Clark Fork Basin Superfund Sites.
- *Cottonwood Resource Council, Big Timber, MT:* Consulting Engineer, Lodestar Mine and Mill, review of operating and MPDES permits, financial assurance and operations data.
- *Earthjustice, Bozeman, MT:* Consulting Engineer, Montanore and Rock Creek Projects permitting process.
- *Earthworks, Washington, D.C.:* Project Manager and co-author, Water Quality Predictions and NEPA/EIS Studies.
- *Gila Resources Information Project, Silver City, NM:* Consulting Engineer, Phelps Dodge Chino, Cobre and Tyrone Mines, reclamation and closure/closeout permitting and bonding process.
- *Great Basin Mine Watch, Reno, NV:* Expert Witness and Consulting Engineer, various NV projects, permitting and reclamation and closure/closeout permitting and bonding process.
- *ICF International, Stafford, VA:* Consulting Engineer, 108(b) rulemaking technical support contract including financial assurance cost estimation model evaluations.
- *Johnson County, KS:* Consulting Engineer, Sunflower Limestone Mine reclamation plan and financial assurance.
- *Little Salmon Carmacks First Nation, Yukon Territory, Canada:* Consulting Engineer, Carmacks Copper Project.
- *Montana Attorney Generals Office, Helena, MT:* Consulting Engineer, assist in defense of I-137 Open Pit Cyanide Mine Ban appeals.
- *Montana Department of Environmental Quality, Helena, MT:* General Contractor, Pony Mill Site Reclamation.
- *Montana Environmental Information Center, Helena, MT and National Wildlife Federation, Missoula, MT:* Expert Witness and Consulting Engineer, Golden Sunlight Mine, EIS Review and assist appeal of State operating permit.
- *Montana Environmental Information Center, Helena, MT:* Expert Witness, Bull Mountain Coal Mine appeal.
- *Montana Trout Unlimited, Missoula, MT:* Consulting Engineer, Trout Unlimited's Four Mines Campaign, review and provide technical assistance on McDonald, Crandon, New World and Rock Creek Mines.
- *Natural Resources Defense Council, New York State:* Consulting Engineer, review of Oil & Gas Draft EIS.
- *New Mexico Environmental Law Center, Santa Fe, NM:* Consulting Engineer, Oglebay Norton Mica Mine reclamation and financial assurance.

- *Northern Plains Resource Council, Cottonwood Resource Council, Stillwater Protective Association, Billings, MT:* Consulting Engineer, Stillwater Mining Company Nye and East Boulder Mines, facilitate and perform technical aspects of Good Neighbor Agreement.
- *Northern Plains Resource Council, Billings, MT; Wyoming Outdoor Council, Sheridan, WY:* Consulting Engineer, Montana Statewide and Wyoming Powder River Basin Coal Bed Methane EIS.
- *Northern Plains Resource Council, Billings, MT:* Project Manager and co-author, Coal Bed Methane Produced Water Studies.
- *Northern Alaska Environmental Council, Fairbanks, AK:* Consulting Engineer, Pogo Mine NPDES permit negotiations.
- *Picuris Pueblo, Penasco, NM:* US Hill Mica Mine Reclamation Plan and financial assurance cost estimate and site reclamation project management.
- *Powder River Basin Resource Council, Sheridan, WY/Steven Adami, Buffalo, WY:* Expert Witness, Kennedy Oil IMADA POD appeals.
- *Rock Creek Alliance, Missoula, MT:* Expert Witness and Consulting Engineer, Rock Creek and Montanore Mines permitting.
- *Shoshone-Paiute Tribes of the Duck Valley Reservation, NV:* Consulting Engineer, Rio Tinto Mine Reclamation and Closure.
- *Sierra Club and Mineral Policy Center:* Expert Witness, Cripple Creek and Victor Mining Company Clean Water Act case.
- *Systems Research and Applications Corporation, Fairfax, VA:* Consulting Engineer, mine cleanup and financial assurance guidelines subcontract to EPA.
- *Montana Trout Unlimited, Missoula, MT:* Consulting Engineer, I-147 initiative campaign.
- *Tohono O'odham Nation, San Xavier District, AZ:* Consulting Engineer, Mission Mine reclamation plan and financial assurance.
- *Trust for Public Lands, San Francisco, CA:* Consulting Engineer, Viceroy Castle Mountain Mine, evaluated pit backfill and reclamation alternatives for settlement agreement trust fund determination.
- *Walz and Associates, Albuquerque, NM:* Expert Witness and Consulting Engineer, assist in defense of New Mexico Environment Department and Mining and Minerals Division permitting and takings case (Manning v. NM).
- *Western Organization of Resource Councils, Billings, MT:* Oil and gas reclamation and financial assurance guide.

1997 to 2005

Center for Science in Public Participation, Bozeman, MT.

- *Canadian Earthcare Society, Vancouver, BC:* Consulting Engineer, Brenda Mine, assist appeal of reclamation and closure permit.

- *CEE Bankwatch, Budapest, Hungary:* Consulting Engineer, Rosario Montana Mine (Romania), economic feasibility study of mine proposal.
- *Friends of the Similkameen, Hedley, BC:* Consulting Engineer, Candorado Mine, assist appeal of reclamation and closure permit.
- *Fort Belknap Tribal Council and Environment Department, Fort Belknap, MT:* Consulting Engineer, Zortman and Landusky Mines, Alternative Reclamation and Closure Plan, multiple accounts analysis working group member and technical advisor during supplemental environmental impact statement.
- *Guardians of the Rural Environment, Yarnell, AZ:* Consulting Engineer, Yarnell Project, EIS review and assist appeal of State operating permit.
- *Mineral Policy Center, Washington, D.C.:* Technical Advisor on general mining issues and Author of MPC Issue Paper.
- *National Wildlife Federation, Boulder, CO:* Consulting Engineer authoring report on Hardrock Mining Reclamation and Closure Bonding Practices in the Western United States.
- *Sakoagan Chippewa Tribes, Mole Lake Reservation, Wisconsin:* Consulting Engineer, Crandon Project, permitting process review.

1993 - 1995

Denver Mineral Engineers, Inc., Littleton, CO.

- Manager, Process Engineering Department.
- Manager, Mining and Environmental Wastewater Treatment Program
- *Arrowhead Industrial Water Co., San Jose, CA:* Project Manager, evaluation of reverse osmosis for mine wastewater treatment.
- *Barrick Goldstrike, USA, Elko, NV:* Project Engineer, engineering design, construction and installation of 1.5 M oz/year stainless steel electrowinning system.
- *Battle Mountain Gold, Co., Battle Mountain, NV:* Project Manager, evaluation, pilot testing, and preliminary feasibility study of wastewater treatment options for groundwater remediation of Fortitude Mine tailings area.
- *Commerce Group Corporation, Milwaukee, WI:* Project Manager, San Sebastian Gold Project, El Salvador.
- *Independence Mining Corp, Jerritt Canyon, NV:* Project Manager, technical evaluation and feasibility study of column flotation for beneficiation of refractory ores.
- *Kennecott Utah Copper, Bingham Canyon, UT:* Project Manager, design and construct stainless steel solvent extraction mixer settlers for prototype SX/EW plant.
- *Israeli Chemical Corp., Beersheeba, Israel:* Project Manager, evaluation of bromine as an alternative to cyanide gold leaching and prototype design.

- *Marston and Marston, St Louis, MO:* Project Manager, Kommunar Gold Mill Modernization Project, Kommunar, Siberia, Russia (CIS) and Suzak Polymetal Leach Circuit Evaluation and Feasibility Study, Kazakhstan (CIS).
- *Nevada Goldfields Mining Co., Denver, CO:* Project Manager, Nixon Fork Mine Preliminary Engineering Design and Feasibility Study, Concentrate Marketing Study, and environmental permitting studies.
- *Southern Pacific Railroad, Denver, CO:* Project Manager, design, construction and installation of dissolved air flotation wastewater treatment system.

1991 - 1992 **Western States Minerals Corp.**

- Project Manager, Northumberland Gold Mine, Round Mountain, NV.
- Corporate Senior Metallurgist, Wheat Ridge, CO. Engineering design and feasibility evaluations.

1986 - 1991 **Western Gold Exploration and Mining Co. (WESTGOLD)/Minorco**

- Corporate Senior Metallurgist / Project Manager, WESTGOLD, Golden, CO. Acquisitions and engineering design and feasibility evaluations, corporate acquisitions and business development group.
- Project Manager, Shamrock Resources (WESTGOLD Subs.), Reno, NV. Evaluation, engineering design and feasibility study, and prototype plant operation of refractory gold ore bioleaching technology program.
- Project Manager, Balmerton Mine, Ontario: Refractory gold ore bioleaching project and feasibility evaluation.
- Project Engineer, Johannesburg South Africa: Evaluation of Anglo American Corp. Pumpcell Technology.
- Mill Superintendent, Austin Gold Venture (WESTGOLD), Austin, NV.
- Shift Foreman, Inspiration Consolidated Copper Co, Globe, AZ.

1984 - 1985 **Canyonlands 21st Century Corporation**

- Director of Metallurgy, Blanding, UT. Project Manager, Jarbidge, NV.

1983 - 1984 **Cumberland Mining Corporation**

- Mill Superintendent / Head Metallurgist, Basin and Virginia City, MT.

1974 - 1980 **Huckaba Construction**

- Summer employment as Underground and Surface Miner, Millwright, Mill Operator, Fire Assayer, Whitehall and Cooke City, MT. Family owned small mining operation.

PRESENTATIONS and PUBLICATIONS

- *Beyond the Global Acid Rock Drainage Guide*, Lake Superior Binational Program; Mining in the Lake Superior Basin Webinar Series, Environmental Impacts of Mining in the Lake Superior Basin, October 27, 2009
- *Characterizing, Predicting, and Modeling Water at Mine Sites*, California Environmental Protection Agency, California Water Board Training Academy, May 18 - 21, 2009
- *Mitigating Mining Impacts: Principles and Practices*, Lake Superior Binational Program, Mining in the Lake Superior Basin Webinar Series, Environmental Impacts of Mining in the Lake Superior Basin, March 24, 2009
- *Long-term Requirements & Financial Assurance at Superfund & Other Mine Sites*, Mine Design, Operations and Closure Conference, Fairmont Hot Springs, MT, April 2008.
- *The Effects of Coalbed Methane Production on Surface and Ground Water Resources*, Committee on Earth Resources, Board on Earth Sciences and Resources, National Research Council, Meeting on the Status of Data and Management Regarding the Effects of Coalbed Methane Production on Surface and Ground Water Resources, Denver, Colorado, April 2008.
- *Reclamation Planning and Financial Assurance Practice in the United States*, Kamchatka Mining Conference, Kamchatka Oblast People's Council of Deputies, the Committee on Ecology and Resource Management of Kamchatsky Krai, the Rosprirodnadzor Division of Kamchatka Oblast and Koryaksky Autonomous Okrug, the Division for Minerals Management for Kamchatka Krai, and the Kamchatka Oblast Council of the All-Russia Society for Nature Protection, Petropavlovsk-Kamchatsky, Russia, October 2007.
- *The Good Neighbour Agreement: A Proactive Approach to Water Management through Community Enforcement of Site-Specific Standards*, w Sarah Zuzulock, Greener Management International, Issue 53, Spring 2006, Greenleaf Publishing, 2007.
- *Sustainable Development at the Anaconda Superfund Site*, Mine Design, Operations and Closure Conference, Fairmont Hot Springs, MT, April 2007.
- *Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements* with A. Maest, K. MacHardy, G. Lawson. *Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art* with A. Maest, Final Report Release December 2006.
- *Reclamation and Bonding in Copper Mining*, U.S. EPA Hardrock 2006: Sustainable Modern Mining Applications, Tucson, Arizona, November 2006.
- *Sustainable Development at the Anaconda Superfund Site*: U.S. EPA Hardrock 2006: Sustainable Modern Mining Applications, Tucson, Arizona, November 2006.
- *U.S. Perspective on Financial Assurance for Mine Cleanup*, presented at International Bar Association Conference, Chicago, Illinois, September 2006.

- *Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements* with A. Maest, K. MacHardy, G. Lawson, presented at Mine Design, Operations and Closure Conference, Fairmont Hot Springs, MT, April 2006.
- *Predicted Versus Actual Water Quality at Hardrock Mine Sites: Effect of Inherent Geochemical and Hydrological Characteristics* with A. Maest, K. MacHardy, and G. Lawson at International Congress on Acid Rock Drainage (ICARD), March 2006, St. Louis, MS.
- *Oil, Gas and Coal Bed Methane Reclamation and Financial Assurance Guide*, with Kimberley MacHardy and Victoria Lynne, November 2005; 12th International Petroleum Environmental Conference, Houston, TX.
- *Approaches to Abandoned Mine Site Assessment and Remedy Selection in the U.S.*, NOAMI Workshop on Assessing Liabilities and Funding Options, November 2, 2005 Ottawa, Canada
- *Filling the Gaps: How to Improve Oil and Gas Reclamation and Reduce Taxpayer Liability*, Kuipers & Associates for Western Organization of Resource Councils, August 2005.
- *The Environmental Legacy of Mining in New Mexico*, Mining in New Mexico: The Environment, Water, Economics and Sustainable Development, New Mexico Bureau of Geology and Mineral Resources, Decision-Makers Field Conference 2005, L. Greer Price et al Editors.
- *Financial Assurance and Bonding*, 2005 Decision-Makers Field Conference, Mining in New Mexico: The Environment, Water, Economics and Sustainable Development, New Mexico Bureau of Geology and Mineral Resources, May 2005.
- *Evaluation of the NEPA Process for Estimating Water Quality Impacts at Hardrock Mine Sites* with A. Maest, K. MacHardy, G. Lawson, for Earthworks, presented at Society of Mining Engineers Annual Conference, Salt Lake City, UT, March 2005 and Mine Design, Operations and Closure Conference, Polson, MT, April 2005.
- *Evaluation of Methods and Models Used to Predict Water Quality at Hardrock Mine Sites: Sources of uncertainty and recommendations for improvement* with A. Maest, C. Travers and D. Atkins, for Earthworks, presented at Society of Mining Engineers Annual Conference, Salt Lake City, UT, March 2005 and Mine Design, Operations and Closure Conference, Polson, MT, April 2005.
- *Coal Bed Methane-Produced Water: Management Options for Sustainable Development*, co-authored with K. MacHardy, W. Merschhat and T. Myers, presented at Coal Bed Natural Gas Research, Monitoring and Applications Conference, Laramie, WY, August 2004; 11th International Petroleum Environmental Conference, Albuquerque, NM, October 2004; Northern Plains Resource Council Annual Meeting, November 2004.
- *Technology-Based Effluent Limitations for Coal Bed Methane-Produced Wastewater Discharges in the Powder River Basin of Montana and Wyoming*, Northern Plains Resource Council, Billings, MT, November 2004.
- *Financial Assurance Guidelines for Hardrock Mine Cleanup*, Mine Design, Operations and Closure Conference, Polson, MT, April 2004.

- *Introduction to Mine Water Treatment*, Mine Discharge Water Treatment Short Course, Mine Design, Operations and Closure Conference, Polson, MT, April 2004.
- *Coal Bed Methane: A Design and Process Overview of Production and Produced Water*, presented as short course at Joint Engineers Conference, Helena, MT, November 2003.
- *The Good Neighbor Agreement between Stillwater Mining Company and Northern Plains Resource Councils: An Example of Industry and Citizen Cooperation*, presented as a short course at Joint Engineers Conference, Helena, MT, November 2003.
- *Reclamation and Financial Assurance for Mines on or Impacting Tribal Land*, presented at U.S. EPA Workshop on Mining Impacted Native American Lands, Reno, NV, September 2003.
- *Reclamation and Financial Assurance from a Public Interest Perspective*, presented at U.S. Forest Service National Geofest, Park City, UT, September 2003.
- *U.S. State and Federal Policies on Financial Assurance Forms for Hardrock Mines*, presented at New Mexico Financial Assurance Forum, Santa Fe, NM, May 2003.
- *Public Interest Perspective on Land Application Disposal*, presented at Mine Design, Operations and Closure Conference, Polson, MT, April 2003.
- *Putting a Price on Pollution: Financial Assurance for Mine Reclamation and Closure*, Mineral Policy Center, Washington, D.C., March 2003.
- Testimony to the Subcommittee on Energy and Mineral Resources, Committee on Resources, U.S. House of Representatives, Hearing on "Availability of Bonds to Meet Federal Requirements for Mining, Oil and Gas Projects." Washington, D.C., July 23, 2002.
- *Mine Closure and Financial Assurance: Can the Mining Industry Afford It's Legacy?*, presented at Global Mining Initiative Conference, Toronto, Canada, May 2002.
- *The Role of the Center for Science in Public Participation in Mining Environmental Issues, with Perspective for Regulators and Industry*, presented at Canadian Institute of Mining and Metallurgical Engineers Conference, Vancouver, Canada, May 2002 and U.S. EPA Hardrock Mining Conference, Denver, Colorado, May 2002.
- *The Good Neighbor Agreement between Stillwater Mining Company and the Northern Plains Resource Councils: The Formation and Implementation of a New Approach to Addressing Environmental and Community Relations Issues*, presented at U.S. EPA Hardrock Mining Conference, Denver, Colorado, May 2002.
- *Underground Hard-Rock Mining: Subsidence and Hydrologic Environmental Impacts*, Center for Science in Public Participation, Bozeman, MT, February 2002. Co-authored with S. Blodgett.
- *Review of the Multiple Accounts Analysis Alternatives Evaluation Process Completed for the Reclamation of the Zortman and Landusky Mine Sites*; presented at National Association of Abandoned Mine Lands Annual Conference, Athens, Ohio, August 2001. Co-authored with S.C.Shaw, A.M. Robertson, W.C. Maehl and S. Haight.

- *Full Reclamation and Closure Plan, Phelps Dodge Tyrone Mine, Grant County, NM*; Gila Resources Information Project, Silver City, NM, July 2001. Co-authored with S. Blodgett.
- *Reclamation Bonding for Hardrock Metal Mines Workshop*; presented by CSP2 at Juneau and Fairbanks, AK, July 2001.
- *Full Reclamation and Closure Plan, Phelps Dodge Chino Mine, Grant County, NM*; Gila Resources Information Project, Silver City, NM, June 2001. Co-authored with S. Blodgett.
- *Reclamation Bonding in Montana*; Montana Environmental Information Center, Helena, MT, November 2000. Co-authored with S. Levit.
- *Full Reclamation and Closure Plan, MolyCorp Questa Mine, NM*; Amigos Bravos, Taos, NM, May 2000.
- *Hardrock Mining Reclamation and Bonding Practices in the Western United States*; National Wildlife Federation, Boulder, CO, February 2000.
- *An Economic Evaluation of the McDonald Gold Project*; Blackfoot Legacy, Lincoln, MT, February 2000..
- *Restoring the Upper Clark Fork: Guidelines for Action*; Trout Unlimited, Missoula, MT, April 1999. Co-authored with D. Workman, B. Farling and P. Callahan.
- *Alternative Final Reclamation and Closure Plan, Zortman and Landusky Mines, MT*; Indian Law Resource Center, Helena, MT, January 1999.
- *Reclamation Bonding Regulations of Precious Metal Heap Leach Facilities in the Western United States*; Presented at the workshop on Closure, Remediation and Management of Precious Metals Heap Leach Facilities, University of Nevada, Reno, Jan 15, 1999.
- *Wastewater Treatment Methods for Base and Precious Metal Mines*; Public Education for Water Quality Project, Northern Plains Resource Council, Billings, MT, 1996.
- *Bacterial Leaching Pilot Study – Oxidation of a Refractory Gold Bearing High Arsenic Sulphide Concentrate*; Randol Gold Forum, Squaw Valley, 1990. Co-authored with J. Chapman, B. Marchant, R. Lawrence, R. Knopp.
- *Novel Aspects of Gold Recovery Using Column Flotation at Austin Gold Venture*; Gold and Silver Recovery Innovations, Phase IV Workshop, Randol International Ltd, Sacramento, CA, 1989.

Exhibit C

SARAH ZUZULOCK, MS, PE
2050 Fairway Drive, Suite 203, Bozeman, MT 59715
Phone (406) 585-9932
E-mail szuzulock@kuipersassoc.com

SUMMARY OF EXPERIENCE

Over ten years experience providing technical assistance to public interest groups, county and tribal government and federal agencies in mining and environmental management issues including monitoring plan design and implementation, wastewater treatment and management, water quality monitoring and reporting, mine operation and closure activities, reclamation and financial assurance review and calculation.

EDUCATION

Montana Tech of The University of Montana, Butte, Montana. M.S. Environmental Engineering, 2001.

Saint Mary's College, Notre Dame, Indiana. B.S. Biological Sciences, 1998.

PROFESSIONAL REGISTRATION

Montana State Board of Professional Engineers and Professional Land Surveyors, Professional Engineer (17368 PE), October 27, 2006

Montana State Board of Professional Engineers and Professional Land Surveyors, Engineer Intern (17368 EI), October 29, 2005

Tau Beta Pi National Engineering Honor Society Montana Chapter, Inducted November 1999

PROFESSIONAL EXPERIENCE

2004 to Present, **Kuipers & Associates, Butte, MT**

- *Anaconda Deer Lodge County, MT:* Consulting Engineer, Anaconda Superfund Site, provide technical services related to institutional controls, property conveyance and redevelopment, operation and maintenance plans and cost estimates, review of regulatory documents, and other tasks related to county involvement in Superfund activities.
- *CLAIM GV Board, Grass Valley, CA:* Consulting Engineer, Preliminary review of Idaho Maryland Project environmental documents and plan of operations for mine development in the City of Grass Valley.
- *Clark Fork River Technical Advisory Committee, Missoula, MT:* Technical Advisor, Clark Fork River and Milltown Reservoir Operable Units, Upper Clark Fork Basin Superfund Sites.

- *Cottonwood Resource Council, Big Timber, MT:* Technical Advisor, Oil and Gas, development of recommended BMPs for oil and gas development and a development scenarios report.
- *Environmental Management Services, Fairfax, VA:* Consulting Engineer, NEPA reviewer assistance subcontract to EPA.
- *ICF International, Stafford, VA:* Consulting Engineer, 108(b) rulemaking technical support contract including financial assurance cost estimation model evaluations.
- *Northern Plains Resource Council, Cottonwood Resource Council, Stillwater Protective Association, Billings, MT:* Consulting engineer/project manager, Stillwater Mining Company Stillwater and East Boulder Mines, facilitate and perform technical aspects of Good Neighbor Agreement including data analysis and reporting, review of agency decisions including operating permit revisions, closure plans and financial assurance review.
- *Picuris Pueblo, Penasco, NM:* US Hill Mica Mine Reclamation Plan and financial assurance cost estimate and project management.
- *Shoshone-Paiute Tribes of the Duck Valley Reservation, NV:* Consulting Engineer, Rio Tinto Mine Reclamation and Closure. Completed environmental monitoring to evaluate for mine related impacts.
- *Systems Research and Applications Corporation, Fairfax, VA:* Technical researcher, mine cleanup and financial assurance guidelines, subcontract to federal agency.
- *Stillwater County Attorney's Office, Columbus, MT:* Technical Consultant, septic permitting issue and review of county septic regulations.
- *Systems Research and Applications Corporation, Fairfax, VA:* Consulting Engineer, mine cleanup and financial assurance guidelines subcontract to EPA.
- *Tohono O'odham Nation, San Xavier District, AZ:* Consulting Engineer, Develop Mission Mine reclamation plan and financial assurance alternatives.

2001 to 2003

Center for Science in Public Participation, Bozeman, MT.

- *Northern Plains Resource Council, Cottonwood Resource Council, Stillwater Protective Association, Billings, MT:* Technical Advisor, Stillwater Mining Company Nye and East Boulder Mines, facilitate and perform technical aspects of Good Neighbor Agreement.
- *Cottonwood Resource Council, Big Timber, MT:* Technical Advisor, Lodestar Mine, mine cleanup and management of acid generating waste rock.
- *Northern Alaska Environmental Council, Fairbanks, AK:* Conducted a review and evaluation of financial assurances held for closure for hardrock mines in the state of Alaska.

1998 to 2001

Montana Tech Mine Waste Technology Program, Butte, MT.

- Assisted in biological characterization of the Berkeley Pit and other acid mine drainage environments.
- Examined bioremediative potential of algal populations indigenous to the Berkeley Pit.

PRESENTATIONS and PUBLICATIONS

- *The Good Neighbor Agreement – A Partnership between a mining company and three communities.* Engaging Communities Conference, Iliamna, Alaska, November 2010.
- *Stillwater Mining Company, Part 2 – RealTime with George Cole.* Yellowstone Public Radio program discussing the Good Neighbor Agreement, July 26, 2010.
<http://www.ypradio.org/programs/local/realtime.html>
- *Stillwater Mining Company – RealTime with George Cole.* Yellowstone Public Radio program discussing the Good Neighbor Agreement, June 28, 2010.
<http://www.ypradio.org/programs/local/realtime.html>
- *The Good Neighbor Agreement – A Social Contract to Mine.* Securing the Future and 8th International Conference on Acid Rock Drainage, Skellefteå, Sweden, June 2009.
- *The Good Neighbor Agreement – The Model for Industry and Citizen Cooperation.* Sweet Grass County Commission, Big Timber, Montana, May, 26, 2009.
- *The Good Neighbor Agreement – The Model for Industry and Citizen Cooperation.* Stillwater County Commission, Columbus, Montana, March, 23, 2009.
- *Predicted Versus Actual Water Quality at Hardrock Mine Sites, Failure Modes and Root Causes of Water Quality Impacts.* Alaska Chapter, American Fisheries Society, Expanding Perspectives of Fisheries, Anchorage, AK, October 2008.
- *The Good Neighbor Agreement – The Model for Industry and Citizen Cooperation.* National Summit for Mining Communities, Butte, MT, September 2008.
- *The Good Neighbour Agreement: A Proactive Approach to Water Management through Community Enforcement of Site-Specific Standards,* w Jim Kuipers, Greener Management International, Issue 53, Spring 2006, Greenleaf Publishing. 2007.
- *Mine Discharge Water Treatment Cost Estimation,* Mine Discharge Water Treatment Short Course, Mine Design, Operations and Closure Conference, Polson, MT, April 2004.
- *Financial Assurance for Hardrock Mine Cleanup,* Western Mining Action Network Conference, Vancouver, Canada, October 2003.

- *The Tiered Trigger Level Water Quality Protection Framework Utilized by the Stillwater Mining Company and the Northern Plains Resource Councils' Good Neighbor Agreement*, EPA Hardrock Mining 2002 Conference, Westminster, CO, May 2002.
- *Good Neighbor Agreement Environmental Monitoring Program*, Western Mining Action Network Conference, Albuquerque, NM, October 2001.
- *Bioremediative Potential of Chromulina freiburgensis in Culture from the Berkeley Pit*, 55th Meeting of the Phycological Society of America, Estes Park, CO, June 2001.
- *Studies of the Berkeley Pit at Montana Tech*, 31st International Geological Congress, Rio de Janeiro, Brazil, August 2000.
- *Chromulina freiburgensis Dofl. In the Berkeley Pit Lake Water System*, Northwest Algal Symposium, Yachats, OR, May 1999.

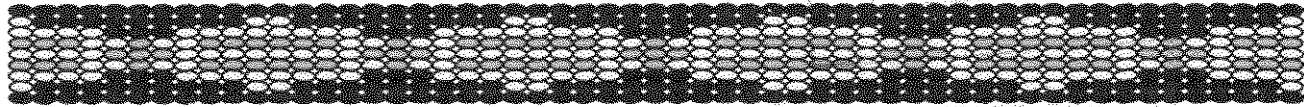
Appendix H

Comments Received in Response to the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc.

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791

FEB 22 2011
DS



February 17, 2011

Attention: Sharon Abbott
Charleston District, Corps of Engineers
1949 Industrial Park Road, Room 140
Conway, SC 29526

Feb
DEC 22 2010
DS

Re. THPO #	SAC#	Project Description
2011-1-33	1992-24122-4	Construction of a mine and mill facility to extract gold from the Haile ore body

Dear Ms. Abbott,

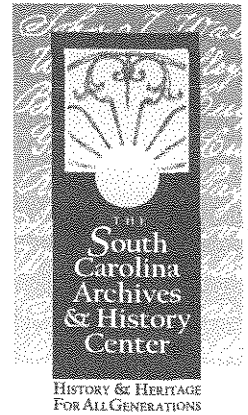
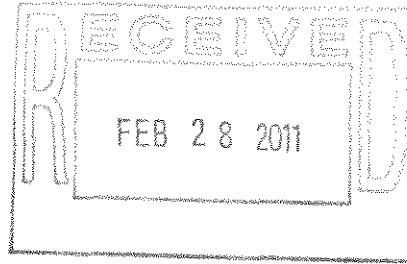
We do wish to consult. Has an archaeological survey been conducted in the areas where there will be ground disturbance? If not, we would require one before we could approve of project since this project is subject to Section 106 of National Historic Preservation Act.

If you have questions please contact Caitlin Totherow at 803-328-2427 ext. 226, or e-mail caitlinh@ccppcrafts.com.

Sincerely,


Wenonah G. Haire
Tribal Historic Preservation Officer

February 22, 2011



Ms. Sharon Abbott
U.S. Army Corps of Engineers
Conway Field Office
1949 Industrial Park Road, Rm. 140
Conway, SC 29526

Re: Haile Gold Mine P/N # SAC 1992-24122-4IA
Lancaster and Kershaw County, South Carolina
SHPO No. 09CC0051

Dear Ms. Abbott:

Our office received the public notice dated 28 January 2011, regarding the Haile Gold Mine. We also received the plans and maps as supporting documentation for this undertaking. The State Historic Preservation Office is providing comments to U.S. Army Corps of Engineers pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitution for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

There are a number of sites within the Area of Potential Effect (APE) that meet the criteria for the National Register of Historic Places (NRHP). Our office has two Memoranda of Agreements (MOA) with Haile Gold Mine. To date, the requirements of the MOA have not been completed. In addition, it is our offices' understanding that archaeological research is currently being conducted within the APE. Since we have not received the results of this research, our office will review and comment on the project within 30 days after the applicant provides us with the results.

If you have any questions, please contact me at (803) 896-6181 or jbarnes@scdah.state.sc.us.

Sincerely,

Jodi Barnes, PhD
Staff Archaeologist/GIS Coordinator
State Historic Preservation Office

cc. Marianna DePratter, SCDHEC-Mining
Ramona Schneider, Haile Gold Mine



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 25, 2011

Lt. Colonel Jason A. Kirk
District Engineer
Attn: Ms. Sharon Abbott
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Subject: Haile Gold Mine, Inc. - SAC 1992-24122-41A

Dear Lt. Colonel Kirk:

This is in response to your request for comments on the above referenced joint public notice (JPN). Haile Gold Mine, Inc. ("applicant") proposes to impact 161.81 acres of wetlands and 38,775 linear feet of streams to open pit mine an area over a 12-year period. The project is located near Kershaw, Lancaster County, South Carolina.

The Environmental Protection Agency (EPA), Region 4 has reviewed the JPN, and a considerable amount of supporting information, most of which was contained in the January 11, 2011, environmental assessment (EA) and the January 10, 2011, conceptual mitigation plan. An EPA representative participated in the interagency site visit held on March 15, 2011, and in the visits to most of the proposed mitigation sites held on March 16, 2011. We appreciate your office and the applicant providing this additional information and for facilitating the site visits. We have also collected additional information related to the environmental impacts of gold mining and reviewed gold mine environmental impact statements prepared by other EPA offices and federal agencies. We are still in the process of gathering and reviewing additional information. In a letter dated February 22, 2011, we requested a 30-day extension of the comment period. We appreciate your confirming that extension in your letter of February 24, 2011. Based on the comments below and the available information, we find that the project does not comply with the Section 404 (b)(1) Guidelines (including the 2008 Mitigation Rule) and may impact aquatic resources of national importance (ARNI). Thus we recommend that you deny the permit for the project as currently proposed. In addition, EPA believes it may be appropriate for you to prepare an Environmental Impact Statement (EIS) concerning this proposed project. In making the determination regarding the need to prepare an EIS, we recommend that you consider the relatively large scale of the impacts associated with proposed project, e.g., the loss of 38,775 linear feet of stream habitats and the loss of approximately 162 acres of wetlands, as well as the questions concerning how effective the proposed mitigation will be at reducing the severity of the potential direct, indirect and cumulative impacts. In that light, based on the information available to EPA, it is not clear that the current mitigation proposal would serve as a basis to support a Finding of No Significant Impact.

This is a substantially different project from previous mining on this site and may have a different applicant. Thus we are unclear as to why, based on the permit number, this appears to be a modification of a previous permit. We would appreciate your office clarifying this point. We are also requesting to review a copy of any previous permits, modifications and mitigation plans for activities on this site. In particular, we want to ensure that the current mining proposal does not disturb any avoidance or mitigation areas cited in previous permits.

The applicant makes a clear presentation of the project purpose and provides several alternatives to meet the project purpose and to avoid and minimize the impacts. From the EA, it appears that the applicant evaluated a number of site configurations. However, only a summary of the various configurations is presented. We are requesting that the applicant provide considerably more detail as to why some alternatives were considered to be impracticable. In the EA and at the site visit, the applicant noted that they had been very successful at assembling the 4,231 acres that make up the total project area. However, some alternative sites for components of the project were rejected due to the difficulty in obtaining sites, for example, the tailings storage facility (TSF), which has a considerable level of impacts. Also alternative site 7 for the TSF, which would have had much less impact than the preferred alternative, was rejected for technological criteria. We are requesting that the applicant clarify what the specific technological criteria were that lead to this alternative being impracticable.

The project will have a wide variety of direct impacts. These include impacts to wetlands, streams, air quality, water quality, aquatic organisms, wildlife, and the surrounding community via socioeconomic impacts. The EA presents information on most of these impacts in varying degrees of detail, and many of these will likely be better defined in the context of the federal, state and local permits that will be required for the project. However, EPA is interested in impacts to all media (land, air and water) and the human impacts as we evaluate this proposed permit. Thus, the applicant needs to provide considerably more detail on many of these topics.

For example, we are concerned about the potential direct impacts to groundwater resources from the construction of mining pits that will be nearly 900 feet deep (almost 400 feet below sea level at this ground elevation). There was information presented at the site visit, including the results of groundwater modeling, which do not appear in the EA. We would like to review these data and the model results. We are also concerned about surface water resources and surface water flow as it relates to water quality. Gold mines can use a considerable amount of water, so we are therefore requesting a detailed water budget for the project. Additionally, at the site visit there was some information related to emergency procedures and designs, particularly as they relate to heavy rainfall from hurricanes. We would like to review these data and any emergency response plan.

Currently, the site has a National Pollutant Discharge Elimination System permitted discharge and a stormwater discharge. We request all information related to these discharges and what changes to the permits are proposed for the new mining operation. The project will impact the Haile Gold Mine watershed, a tributary to Little Lynches River. South Carolina Department of Health and Environmental Control (SCDHEC) has listed in their 2010 303(d) report the segment in the vicinity of the confluence of Haile Mine Creek and Little Lynches River as impaired due to biological impairment based on macroinvertebrate survey data. The

cause of the impairment is unknown at this time. Discharges of pollutants directly or indirectly to Little Lynches River may exacerbate the poor biological conditions in this run of Little Lynches River. SCDHEC is required to develop a Total Maximum Daily Load to address this impairment, typically within 8 to 13 years of listing.

The preferred alternative generates a number of waste streams, some of which will be handled on site and some which will be disposed of off site. We would like to review any additional information the applicant has on the various types of waste the mining operation will generate and its proposed disposal.

We would also like to review the detailed reclamation plan. Based on the information in the EA, it appears some pits will be retained as ponds and there will be surrounding (up to 150-foot tall) disposal areas. It was unclear why it is not possible to return the site to as close to natural contours as possible.

The EA and appendices present a considerable amount of information related to the direct stream and wetland impacts of the project, which is understandable since this EA was submitted as part of the Section 404 permit application. We appreciate the applicant conducting both wetland and stream functional assessments on the impact areas. We are, however, unclear as to the low functional ratings of many of the streams and wetlands that will be impacted. Our site visit, which was admittedly cursory, did not give the impression that the wetlands and streams were as impaired as characterized in the functional assessments. While there was some disturbance in the streams and wetlands on the existing mine site, the streams appeared to be generally stable with adjacent wetlands that were generally intact. The streams and wetlands on the site of the proposed tailings storage facility appeared to be even more functional. These streams and wetlands are important in maintaining the physical, chemical and biological integrity of aquatic resources in the watershed. The types of streams and wetlands and the scope of the proposed impacts have led to our determination that these are ARNI. Thus, while the EA presents some of the functional assessment data sheets, but we would like to discuss with your office, the other review agencies and the applicant the basis for the low functional ratings.

Based on the EA and the conceptual mitigation plan, the applicant used the wetland and stream functional assessments to derive the existing condition factors for the wetland and stream adverse impact calculations made with the October 7, 2010, Charleston District Standard Operating Procedure (SOP). The applicant calculated that 1,526.82 wetland mitigation credits and 281,758 stream mitigation credits would be needed to mitigate for the direct wetland and streams impacts. We are requesting that the SOP worksheets for calculating these credits be provided to EPA, as the SOP adverse impact calculations are essential to our review of the direct stream and wetland impacts of the preferred alternative.

The EA provides little information on the potential indirect and cumulative impacts of the project. It is essential that all potential indirect and cumulative impacts be evaluated before any permit is issued, therefore we are requesting comprehensive documentation on these components.

We appreciate the applicant providing the conceptual mitigation plan and for facilitating the field visits to many of the sites in the plan. We also acknowledge the applicant's efforts to use a watershed approach in preparing the mitigation plan. The plan proposed wetland and stream restoration or enhancement actions at a number of sites that will generate approximately 745 wetland credits and 175,460 stream credits. For the remaining credits the applicant is proposing preservation of 642 acres of streams, wetlands and uplands in two areas adjacent to the Forty Acre Rock Heritage Preserve and Carolina Heelsplitter Conservation Bank. Application of the SOP to these sites shows that they would yield 16,381 stream credits and 84.3 wetland credits. This leaves an unmet mitigation obligation of at least 697.7 wetland credits and 89,917 stream credits, which is of significant concern to EPA.

Based on the site visit and the conceptual mitigation plan, all of the stream and wetland restoration/enhancement sites have the potential to restore or enhance streams functions and thus generate stream and wetland mitigation credits. The site visit showed that some of the sites could generate more credit than has been proposed. The preservation sites adjoining the heritage preserve are also an acceptable component of the mitigation plan. However, we cannot concur with the proposal that the preservation sites are adequate for the remaining credit balance.

Another concern with the mitigation plan is that many of the streams are in a different ecoregion from the impact areas. The Haile Gold Mine is on the Carolina Slate Belt and the impacted streams and wetlands appear to have characteristics of the Slate Belt and/or Sand Hills areas. Many of the mitigation sites, however, are in the Southern Outer Piedmont ecoregion, thus they may provide out of kind mitigation as compared to the impact areas. Should the applicant adequately address our concerns stated above related to the other requirements of the Section 404(b)(1) Guidelines, then the mitigation plan should be refined and expanded to provide the adequate amount of stream and wetland credits to offset the impacts. Additional credits should come from Slate Belt and Sand Hills ecoregion type wetlands and streams.


A final mitigation plan will also have to comply with all requirements of the 2008 Mitigation Rule. This conceptual plan will need to be considerably expanded to include all the requirements of a final mitigation plan.

In summary, the proposed project has the potential to have a significant level of direct impacts to a wide variety of natural and human resources. We consider that the most appropriate way to comprehensively assess these direct impacts, any indirect impacts and the cumulative impacts is through preparation of an EIS. The EIS should address potential human health impacts, including potential impacts to private drinking water wells and other drinking water supplies. It should also consider, at a minimum, the ecosystem function and habitat, and the effects of the hydrologic modifications to the impacted watershed, as well as address the impact of deforestation and development on water quality, water quantity and other ecological conditions. Our National Environmental Policy Act staff are available to discuss with you this issue of whether an EIS should be prepared. Due to the limited amount of information on some topics and the inadequate compensatory mitigation plan, we find that the proposed project does not comply with the Section 404(b)(1) Guidelines and that the permit, as proposed, should be denied. We also find that the project may impact ARNI. This letter follows the field level

procedures outlined in the August, 1992 Memorandum of Agreement between the EPA and the Department of Army, Part IV, paragraph 3(a) regarding Section 404(q) of the Clean Water Act.

Thank you for consideration of these comments and for the 30-day extension to the comment period. If you have any questions, please contact Bob Lord at 404-562-9408 or at lord.bob@epa.gov.

Sincerely,



James D. Giattina
Director
Water Protection Division

cc: Ms. Sharon Abbott, USACE
Mr. Tommy Fennel, USACE
Ms. Morgan Wolf, USFWS
Mr. Mark Leao, USFWS
Mr. Rusty Wenerick, SC DHEC
Ms. Vivianne Vejdani, SC DNR



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
(727) 824-5317; FAX (727) 824-5300
<http://sero.nmfs.noaa.gov/>

March 25, 2011

F/SER47:JD/pw

(Sent via Electronic Mail)

Lt. Colonel Jason A. Kirk, District Engineer
Charleston District, Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Attention: Sharon Abbott

Dear Lt. Colonel Kirk:

NOAA's National Marine Fisheries Service (NMFS) reviewed public notice 1992-24122-4IH, dated January 28, 2011. Haile Gold Mine, Inc., requests authorization from the Department of the Army to construct and operate a gold mine in Haile Gold Mine Creek, approximately three miles north of the City of Kershaw, Lancaster County. The purpose of the proposed project is to extract and process gold from the Haile ore body. Compensatory mitigation is proposed in the form of a permittee-responsible mitigation plan. While the public notice indicates that the project would impact approximately 165 acres of estuarine substrates and emergent wetlands used by various life stages of species of red drum, shrimp, and snapper-grouper management complex; this is an editorial oversight by the District since the nearest estuarine habitat is over 100 miles from the proposed mine; accordingly, NMFS offers no conservation recommendations to protect essential fish habitat (EFH). As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to our authorities under the Fish and Wildlife Coordination Act.

Proposed Project Description

The proposed work consists of constructing a gold mine and mill in Haile Gold Mine Creek. The area has been mined for gold since its discovery in 1827 with the most recent mine in operation from 1985 to 1992. The applicant is proposing to expand into a new area of land where gold is available. The permitted mining boundary is approximately 4,231 acres. Within this overall area, approximately 2,883 acres are considered to be the "affected area" in which all mining operations and activities are proposed to occur. The remaining lands outside of the affected area are considered future reserve or buffer area(s) and have not been taken into consideration for



current operations, mine planning, or this permit application. The “affected area” would include facilities, pits, plant and mine operations, tailing storage facility, haul routes, overburden storage areas, growth media stockpiles areas, and future reserves.

The work would consist of mechanized land clearing, grubbing, temporary stockpiling, filling and excavation of 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. The general activities would consist of open-pit mining, material hauling, crushing, and flotation processes. Mining would be phased among eight open pits with maximum pit depth ranging from approximately 100 feet to 840 feet and covering approximately 420 acres or 19% of the total project affected area. Mining would occur at a nominal mill rate of 7,000 tons of ore per day, 365 days per year. Approximately 240 million tons of overburden material would be generated and selectively placed based on geochemical characteristics. Placement of the material would either be on a lined or unlined overburden facility, for use in the construction of the tailing storage facility (TSF; an above grade lined impoundment), concurrent reclamation of facilities, or returned to one of the mined pits for backfill. Once gold has been extracted, the remaining material and tailings would be treated to maintain a pH of 8.0 to 8.5 and concentration of less than 50 ppm of cyanide and pumped to the approximately 600-acre TSF. Once mining ceases, the TSF would be encapsulated with geosynthetic material and growth media. Any water leaching from the TSF would be monitored and treated prior to discharge into the Little Lynches River. The applicant’s water management plan has two categories for the water that would added to the system: contact water that requires treatment before it can be released and non-contact water that does not require treatment. Noncontact water may require detention for sediment, but is not expected to be run through the water treatment plant. Contact water includes free water in the TSF, runoff and underdrain from potentially acid generating overburden and low grade ore stockpile, and direct precipitation and runoff accumulating in the active and inactive pits. Noncontact water includes runoff from topsoil stockpiles, overburden storage areas, undisturbed ground, TSF outer perimeter, and the plant site and groundwater from pit depressurization. Further details of mining, loading, hauling, milling, and support operations are described in the *Environmental Assessment for the Haile Gold Mine Project in Kershaw, SC* (2010) and are incorporated here by reference.

Fish Habitat in the Project Area

Four named tributaries of the Lynches River, including Little Lynches River, Haile Gold Mine Creek, Camp Branch, and Buffalo Creek, as well as several unnamed streams are present within the action area. The Lynches River, a State Scenic River, receives water from the Little Lynches River and serves as a portion of the watershed of the Great Pee Dee River, which flows into the Atlantic Ocean as the Waccamaw River just south of Georgetown. Both the Little Lynches and Lynches Rivers are historically important habitat for NOAA trust resources, including shortnose sturgeon (*Acipenser brevirostrum*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*), blueback herring, (*Alosa aestivalis*), striped bass (*Morone saxatilis*), and American eel (*Anguilla rostrata*). However, the presence of these species has greatly diminished in recent decades due to agricultural and industrial pollution, such as the acidic and mineral laden waters expected from operation of the Haile Gold Mine. Recent efforts to control pollutants and improve fish passage in this river system have increased the potential for these species to return to this habitat. Presently, the Pee-Dee River, which connects to the Lynches River, is important spawning habitat for anadromous fish.

Impacts to Fish Habitat

Four gold mines have been in operation in South Carolina; Brewer, Haile, Ridgeway, and Barite Hill. As reviewed in Eisler et al. (1999)¹, fish kills from accidental discharges of cyanide gold mining wastes are common and can result in both lethal and sublethal aquatic impacts. For example, in 1990, a failure of an overflow pond at that Brewer Gold Mine, now a superfund site, resulted in a release of a sodium-cyanide solution containing cyanide, copper, and mercury². This release caused a fish kill along 49 miles of the Lynches River. Sampling investigations conducted subsequent to the overflow pond failure have shown that releases of chromium, cobalt, nickel, and selenium also have occurred. Metals, including copper and mercury, have been detected in ground water underlying the former mining activities. In addition, acid rock drainage began to emerge from several seeps a few hundred feet from Little Fork Creek. Leakage and discharge of gold mine by-products can have harmful environmental impacts on water quality for both humans and natural resources.

The proposed mine is sited near the headwaters of the Little Lynches River. Although no direct impacts such as filling or excavating would occur in the river, runoff and discharge would negatively impact water quality. The “slate belt” has a history of gold mining; however, no baseline water quality monitoring is described. Further, the applicant is proposing to contain contact water within the TSF; however, it is unclear how the water level would be maintained. A water treatment facility with a capacity of 1,200 gpm was used for the water balance model; however, the applicant has identified that monthly contact water runoff rates may peak at rates significantly higher than 1,200 gpm.

Compensatory Mitigation

The proposed *Conceptual Mitigation Plan*, dated January 10, 2011, includes restoration, enhancement, or preservation of four sites within the 8-digit HUC of the Haile Gold Mine; Flat Creek Headwaters Mitigation Area, Little Lynches River Mitigation Area, Lynches River Headwater Mitigation Area, and Flat Creek Heritage Preserve Expansion Area. In total, the applicant has calculated that 281,758 stream credits and 1,527 wetland credits are needed as compensatory mitigation to offset the adverse environmental impacts from construction and operation of the Haile Gold Mine. The mitigation plan would generate 175,460 stream credits and 754 wetland credits. To account for the balance of the needed credits and hence comply with the District guidelines (i.e., 2010 SOP), the applicant proposes to transfer fee simple ownership of approximately 642 acres to the Katawba Valley Land Trust or the SC Department of Natural Resources. This land would be incorporated into the Flat Creek Heritage Preserve.

While the mitigation plan focuses on actions such as bank stability and cattle exclusion, it lacks success criteria and monitoring methods. No water quality or fish monitoring is described in the plan and we are concerned that impacts from the mine site will not be accounted for downstream. For example, the Little Lynches River mitigation site is located 3.5 miles downstream of the mine site. Although cattle may be excluded and banks stabilized, if the water quality is poor, it may not be suitable as fish habitat. We note that the Lynches River Headwater Mitigation area is

¹ Eisler, R., D.R. Clark, Jr., S.N. Wiemeyer, and C.J. Henny. 1999. Sodium cyanide hazards to fish and other wildlife from gold mining operations. Pages 55-67 In J.M. Azcue(ed.) *Environmental impacts of mining activities*. Springer-Verlag, Berlin. Accessed via <http://www.cerc.usgs.gov/pubs/center/pdfdocs/90972.pdf>

² <http://www.epa.gov/superfund/sites/npl/nar1725.htm>

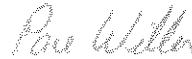
part of the Lynches River TMDL and is 303(d) listed for excessive fecal coliform loading. The cattle exclusion and riparian buffers planned for this site would directly assist in lowering fecal coliform levels. However, the question still remains regarding water quality impacts from the mine, which is not fecal-related.

Recommendations

- 1) The applicant should develop a monitoring and reporting plan for water quality and fish that identifies specific parameters to be measured and sampling methodologies. Monitoring should be conducted at the site and downstream, including the confluence of the Little Lynches and Lynches River.
- 2) The applicant should revise the conceptual monitoring plan to include water quality monitoring and specific criteria that will demonstrate plan success to resource agencies.
- 3) The applicant should prepare a contingency plan should accidents occur and environmentally harmful water be released into the watershed.

We appreciate the opportunity to provide these comments. Please direct related correspondence to the attention of Ms. Jaclyn Daly at our Charleston Area Office. She may be reached at (843) 762-8610 or by e-mail at Jaclyn.Daly@noaa.gov.

Sincerely,



/ for

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:

COE, Sharon.J.Abbott@usace.army.mil
DHEC, owensen@dhec.sc.gov
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

March 29, 2011



Lt. Colonel Jason A. Kirk
District Engineer
U.S. Army Corps of Engineers
1949 Industrial Park Road, Room 140
Conway, SC 29526

Attn: Sharon Abbott

Re: P/N SAC-1992-24122-4IA, Haile Gold Mine, Inc., Kershaw, Lancaster County, SC
FWS Log No. 2011-CPA-0059

Dear Colonel Kirk:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced public notice with regard to the effects the proposed project may have on Federal trust resources. Our comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1341) and section 7 of the Endangered Species Act (Act), as amended (16 U.S.C. 1531-1543). This letter also serves as official comments to the South Carolina Department of Health and Environmental Control.

Complete details regarding project activities can be found in the above-referenced public notice and corresponding Environmental Assessments (EA). Briefly, the proposed work consists of the excavation and fill of 161.81 acres of wetlands and 38,775 linear feet of streams during a phased mining plan involving 8 pits that will take place over a 12 year period at Haile Gold Mine in Lancaster County, SC.

Due to the scope, complexity, and extent of potential impacts, the Service believes that the applicant should develop an Environmental Impact Statement (EIS) to provide a more thorough review of project activities and possible impacts to the environment, including impacts to Trust resources such as threatened and endangered species, critical habitat, and migratory birds. Specifically, an EIS should provide, at a minimum, the following information essential to the evaluation of the project's impacts:

- The purpose and need for the project;
- A construction alternatives analysis with justification on selection of a preferred alternative;
- Indirect and cumulative, long-term impacts to the surrounding area, particularly downstream habitats and water quality;


- Groundwater modeling and characterization studies and results;
- Emergency response and/or contingency plans, specifically those plans involving hazardous materials/substances;
- Post closure monitoring plans: should address protocols, parameters measured, interpretation of results, and reporting requirements;

We have reviewed the project for potential adverse impacts to federally protected species and critical habitat. Based on the information received, we concur with a determination that this project is not likely to adversely affect any federally protected species and/or designated or proposed critical habitat. In view of this, we believe that the requirements of Section 7 of the Act have been satisfied. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

As it pertains to the federally endangered Carolina heelsplitter (*Lasmigona decorata*), the Service offers the following comments regarding the Conceptual Mitigation Plan that was prepared for the U.S. Army Corps of Engineers-Charleston District (Corps). As currently proposed, the mitigation plan for this project supports protection and recovery efforts for the Carolina heelsplitter in the Lynches River watershed, and also helps satisfy the Corps' obligations under section 7(a)(1) of the Act which states: "...All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species listed pursuant to section 4 of this Act." Specifically, the Flat Creek Heritage Preserve Expansion Area would protect 7,000 feet (1.3 miles) of occupied critical habitat in Flat Creek. Flat Creek is a priority tributary for the recovery of the species, as it contains the most viable surviving population of the Carolina heelsplitter. The mitigation plan also works towards restoring and improving water quality and aquatic function in the entire watershed by focusing on headwater areas located within the recently developed Lynches River TMDL.

After reviewing the public notice, environmental assessment, and conceptual mitigation plan for the project, the Service has several concerns that were not addressed in these materials. Until the above listed information is supplied by the applicant, we recommend that the permit be held in abeyance. We recommend that you consider comments made by other Federal or State agencies regarding this project. If you have questions regarding this correspondence or need further assistance please contact Ms. Morgan Wolf at (843) 727-4707 ext. 219 and reference FWS Log No. 2011-CPA-0059.

Sincerely,


Jay B. Herrington
Field Supervisor

JBH/MKW

South Carolina Department of Natural Resources

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John E. Frampton
Director
Robert D. Perry
Director, Office of
Environmental Programs

March 30, 2011

LTC Jason A. Kirk, PE
U.S. Army Corps of Engineers
Charleston Regulatory Office
69-A Hagood Avenue
Charleston, South Carolina 29403

Ms. Heather Preston
SC Department of Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

REFERENCE: SAC #1992-24122-4IA Haile Gold Mine, Inc.

Dear Col. Kirk and Ms. Preston,

Personnel of the South Carolina Department of Natural Resources (DNR) have reviewed the joint permit application for the proposed reopening of Haile Gold Mine (Project) as well as the applicant provided Environmental Assessment (EA) prepared by Genesis Consulting Group, December 3, 2010, revised January 11, 2011. Previously, DNR staff participated in a site inspection and pre-permit application interagency meeting on April 29, 2009. DNR staff also participated in the interagency meeting and site meeting coordinated by the United States Army Corps of Engineers, Charleston District and hosted by Haile Gold Mine, Inc. (Applicant) on March 15-16, 2011. DNR staff have participated in additional inspections of the proposed mine reopening and proposed tailings facility site in order to obtain additional information from the Applicant. Finally, DNR staff has performed aquatic resource inventories of the lower reaches of Haile Gold Mine Creek and Camp Branch near the confluences of both of these tributaries with Lynches Creek as well as reference population sampling on Lynches Creek above S-29-88 and above SC 157. These aquatic resource inventories have been compared to archived data (1993) for the lower reach of Haile Gold Mine Creek. DNR submits the following comments and recommendations for the Project based on the information provided in above-referenced documents and during meetings and site visits as well as internal research.

The public notice states the proposed work would consist of the excavation and fill of 161.81 acres of wetlands and 38,775 linear ft of streams, also to include mechanized land clearing, grubbing and temporary stockpiling of overburden. Phased mining is proposed involving 8 open pits over a 12-year period. Pits would range in depth from 110-840 ft. In the excavation of each pit, the surface layer, consisting of the existing seed bank and upper level of soil, will be removed and stockpiled for use during reclamation activities; additional organic material harvested on site may be added to the upper layer of soil to constitute growth media for future reclamation. Next, overburden would be excavated and stockpiled for future backfilling of pits. Ore then would be mined using 6-inch diameter bore holes, explosives and wheeled loading

LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-4IA Haile Gold Mine, Inc.
March 30, 2011

equipment to load 100-ton capacity off-road mining trucks. Following ore removal, each pit is proposed to be sequentially backfilled with overburden. Ore will be processed in onsite milling facilities. Once gold has been extracted, the remaining material or tailings would be treated to maintain a pH between 8.0-8.5 and concentration of less than 50 ppm of sodium cyanide. Tailings, in the form of a slurry, thence would be pumped to an approximately 600-acre geosynthetically lined Tailings Storage Facility (TSF). Once mining ceases, the TSF is proposed to be encapsulated with geosynthetic material and a minimum of 2 ft of growth media. Any water leaching from the TSF would be monitored and treated prior to discharge into the Camp Branch, a tributary of Lynches Creek which forms the Little Lynches River downstream at the nearby Kershaw County line. Mining activities are proposed to take place 7 days-per-week, 365 days-per-year. The Project purpose is to construct a viable mine and mill to recover precious metals from the Haile gold deposit.

Based on our review, it appears that adequate mine site reclamation efforts were implemented since the early 1990s by the Applicant and its predecessors. Clearly, these reclamation efforts have transformed the historical mine footprint. Comparisons of archived stream assessment information for the lower reaches of Haile Gold Mine Creek with new information indicates mine reclamation efforts can be successful in improving water quality and restoring some functions of aquatic resource integrity. DNR believes the historic mine site could be reopened and reclaimed again, and in time and with appropriate reclamation, many stream functions and values can be re-achieved. Further, DNR believes a coordinated mine closure reclamation strategy could benefit a number of wildlife species particularly grassland birds. Other opportunities may exist to develop post mine closure partnerships to the benefit of natural resources and users. Meetings with the Applicant have been cordial and productive, and DNR is appreciative.

The EA stipulates the site could expand to include additional mining if gold reserve exploration is fruitful.¹ It is unclear to DNR how anticipated potential mining expansion will be handled with respect to currently requested permits or other necessary permitting requirements. Anticipated mining activity beyond the scope of what is being proposed will cause additional and cumulative impacts that should be considered at the present time. The Applicant needs to define the amount of mining that is anticipated in the reasonably foreseeable future.

The permit application and EA do not provide sufficient information in the Alternatives Analysis to demonstrate that impacts have been avoided and minimized to the greatest practicable extent. The applicant includes an analysis of 21 off-site alternatives for non-pit facilities. More information is requested for off-site Alternatives # 11 and # 7. Alternative site #11 meets location and technological criteria and results in less impact to waters of the US than the preferred alternative, but site # 11 was not selected because it requires relocation of private residences. The applicant has acquired thousands of acres of adjacent land and appears to have relocated a number of private residences for the preferred alternative or to create additional buffer, so it is not clear why relocation of private residences is not feasible for Alternative # 11. Alternative # 7 was rejected for technical reasons, but a detailed list of the criteria for which it was rejected is not identified. DNR is particularly interested in an alternative site for the TSF in

¹ At IV (A) page 34 of 120. Environmental assessment for the Haile Gold Mine Project in Kershaw, SC.

LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-41A Haile Gold Mine, Inc.
March 30, 2011

order to avoid impacts to Camp Branch, a relatively high functioning stream system. DNR recognizes the applicant's attempt to minimize impacts by concentrating mining activities on land already impacted by former mining operations. However, DNR encourages the applicant to avoid impacts to the greatest extent for non-pit facilities, particularly the 600-acre TSF, by utilizing alternative design configuration or locating these facilities in upland areas or areas with fewer wetland and stream impacts or within in the already impacted mine site.

The proposed TSF appears to have additional impacts to portions of Camp Branch that may not be documented or calculated. The northern and western edges of the proposed TSF immediately abut portions of Camp Branch. This juxtaposition undoubtedly will cause wetland and stream impacts. It is unclear to DNR why these impacts were not included, mapped and calculated. At a minimum, indirect and cumulative impacts on all segments of Camp Branch need to be documented and considered.

A full accounting of direct and indirect impacts to onsite wetlands and streams should be conducted and mitigation should be provided not only for wetlands and streams directly impacted by filling or excavation, but also those that will be biologically and hydrologically impaired through shading, fragmentation and sedimentation. The sandhills chub (*Semotilus lumbee*), a state fish species of highest conservation priority, has been documented to occur in Camp Branch by the applicant's consultant and will be impacted through a significant loss of habitat. DNR biologists conducted an independent assessment of tributary headwaters of Haile Gold Mine Creek and documented a healthy and reproducing stronghold population of sandhills chub. Since the area containing this population of sandhills chub is proposed for impact, an appropriate mitigation plan for this species should be developed in consultation with DNR.

The public notice number references the original permit application, but it is unclear whether the permit is being processed as a new activity or a modification to the original permit, or if a permit was issued subsequent to the 1992 application. Areas that are proposed for expansion potentially could be areas that were to be avoided as a condition of the original permits, if issued. For purposes of review, DNR respectfully requests a copy of the original permit application or permits, if issued.

The application and EA do not adequately address potential impacts to surface and groundwater quality and supply. The application states:

Any water leaching from the TSF will be monitored and treated prior to discharge into the Little Lynches River.

However, a list of potential contaminants in the leachate has not been provided. DNR requests additional information on what contaminants will be monitored and post-closure monitoring plans. The EA does not include a groundwater contaminant transport study or model to assess potential groundwater contamination, nor a contingency plan in the event a contamination plume is detected. The EA also does not include an emergency protocol for a surface/groundwater contamination event, either onsite during processing or offsite during offsite transport of hazardous waste.

LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-41A Haile Gold Mine, Inc.
March 30, 2011

DNR is concerned that significant wildlife mortality may result from ponding in the approximately 600-acre TSF. During the March 15 meeting, the Applicant indicated that wildlife mortality would not be significant as tailings would be treated to contain a concentration of less than 50 ppm sodium cyanide before storage, but a toxicity threshold or acute toxicity study has not been provided to demonstrate the safety to wildlife from exposure to sodium cyanide at these levels, nor have any wildlife mortality studies of similarly designed and maintained TSFs been provided. DNR also requests additional information regarding associated minerals that may be present in the overburden and that may contain heavy metals such as mercury, arsenic and antimony, which could potentially contribute to acid mine runoff and contaminate surface water bodies. Of concern to DNR are other metals associated with gold mineralization include silver, arsenic, molybdenum, tellurium and copper. DNR is concerned that metal contamination could become an issue for downstream municipal or industrial water users. Any mercury contamination downstream of the Project must be avoided since downstream reaches already are at levels of this contaminant to cause fish consumption advisories.

The EA analysis contains a water balance on operational and storage needs, but this analysis does not consider the effect of operations on downstream surface water flow. DNR requests the Applicant analyze the effect of diverting water for operations from Camp Branch and Haile Gold Mine Creek. DNR particularly is interested in the mean average daily flow of Camp Branch and Haile Gold Mine Creek, seasonality of instream flow in these surface water bodies as well as the proportional contributions and seasonality of those contributions to downstream Lynches Creek and the magnitude of instream-flow impacts associated with diversion and/or use of the surface waters of Camp Branch and Haile Gold Mine Creek. DNR encourages consultation during this requested analysis.

To the Applicant's merit, the proposed conceptual mitigation plan incorporates a watershed approach and would preserve large contiguous areas of the Flat Creek watershed. Flat Creek is on the 303(d) list of impaired waters for fecal coliform. Mitigation sites have been located in the Lynches River Total Maximum Daily Load area developed by the South Carolina Department of Health and Environmental Control (DHEC) for fecal coliform, and are within critical habitat for the federally endangered Carolina heelsplitter (*Lasmigona decorata*). The Applicant also proposes to preserve 758 acres of land adjacent to Forty-Acre Rock Heritage Preserve. However, the proposed stream mitigation is out-of-kind (piedmont type stream for slate belt and sandhill stream losses) and does not address the loss of sandhills chub habitat. The proposed mitigation also is approximately 80,000 stream credits short of the required stream credits. DNR recommends appropriate in-kind slate belt and sandhills stream mitigation opportunities be sought elsewhere within the watershed.

Given the magnitude of direct, indirect and cumulative impacts to natural resources, DNR requests that an appropriate restitution plan be provided to compensate for any wildlife and fisheries mortality or other natural resource impacts that may result from the proposed mining, storage of tailings and reclamation activities.

LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-41A Haile Gold Mine, Inc.
March 30, 2011

DNR also requests consultation and involvement in reclamation planning to ensure the maximum opportunity to restore natural resource functions and provide public use and natural resource economic opportunities on the site upon mine closure if not before.

In summary, DNR requests additional information on the following:

1. The scope and extent of anticipated future mining with a complete analysis of calculated impacts to include indirect and cumulative impacts.
2. Additional information on alternatives analysis for all impacts that are proposed to take place outside the historical and already impacted mine site footprint. This analysis should include an explanation if there are any other possible design alternatives that could place the TSF inside the historical mine footprint that is already impacted and will be re-impacted. The analysis should demonstrate that there is no alternative to constructing the TSF where planned which would cause major stream and wetland impacts.
3. While DNR seeks an alternative to the proposed TSF in the interest of avoidance and minimization, we request confirmation that there will be no additional impacts to Camp Branch as related to the proposed TSF to include all indirect and cumulative impacts to portions of Camp Branch that are just outside the TSF dike.
4. A full accounting of direct and indirect impacts to onsite wetlands and streams to include mitigation calculations for biological and hydrological impairments likely to occur through shading, fragmentation and sedimentation.
5. An explanation as to any protective agreements and/or mitigation that may have been included in any permits issued during the early 1990s.
6. An accounting for any water quality and water quantity impacts that could impinge on future downstream resources, withdrawals or assimilative capacity including monitoring plans for potential contaminant metals during mining and post closure.
7. The Applicant should provide additional mitigation particularly to include mitigation for impacts to sandhills headwater stream systems of benefit to sandhills chub.
8. A restitution plan for any wildlife and fisheries mortality related to mining and/or reclamation.
9. DNR seeks applicant assurance of DNR consultation and involvement in reclamation plans to ensure the maximum opportunity to restore natural resource functions and provide public use and natural resource economic opportunities on the site upon mine closure if not before.

As noted herein, the proposed project would result in permanent direct, indirect and cumulative impacts. The EA does not provide adequate information to assess the full measure of impacts that will result from the proposed activity. The proposed conceptual mitigation plan, while well-designed and incorporating a watershed approach, does not fully provide in-kind replacement to offset losses. DNR is concerned that mine impacts could eliminate what appear to be population strongholds of the sandhills chub in the headwaters of affected tributaries and further reduce available habitat of this range-restricted species listed as of state concern. DNR is concerned that mine impacts such as altered hydrology, erosion and sedimentation, and contaminants in runoff could impair the ability of the Little Lynches River and downstream reaches of major river arteries to support the rich and diverse aquatic community and public uses located there today.

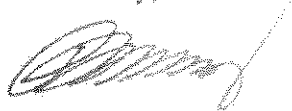
LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-41A Haile Gold Mine, Inc.
March 30, 2011

Therefore, until such time as the above cited concerns are addressed, DNR recommends that no permits be issued.

Because the purview of state permitting authorities overlap and due to the complexity and interconnectedness of water quality and quantity issues, DNR recommends concurrent permit review and approval by DHEC for all required state permits. Specifically, DNR respectfully requests to DHEC that there be near-concurrent rulings with respect to water quality certification as well as stormwater, air and mine permitting. Where multiple state permits are required for any project, DNR believes non-concurrent rulings unfavorably tilt the review of successive permit applications toward approval resulting in unnecessary natural resources risks, while concurrent permitting does not unfavorably harm an applicant and results in the ability to weigh natural resource risks in a balanced and appropriate manner.

If your offices require any additional information regarding these comments, please contact Vivianne Vejdani at vejdani@dnr.sc.gov or 803.734.4199.

Sincerely,



Bob Perry
Director, Office of Environmental Programs

c: Bob Lord – USEPA
Pace Wilber – NMFS
Jaclyn Daly – NMFS
Tina Hadden – USACE
Travis Hughes – USACE
Tommy Fennel – USACE
Sharon Abbott – USACE
Jay Herrington – USFWS
Mark Caldwell – USFWS
Morgan Wolf – USFWS
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Chuck Hightower – DHEC
Chris Beckham – DHEC
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Ann Clark – DHEC
Myra Reece – DHEC
Michael G. McShane – DNR Board Chairman
Caroline C. Rhodes – DNR Board
John Frampton
Don Winslow
Greg Mixon

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 843-720-5270

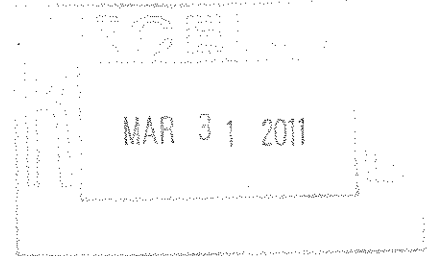
43 BROAD STREET, SUITE 300
CHARLESTON, SC 29401-3051

Facsimile 843-720-5240

March 30, 2011

VIA E-MAIL AND U.S. MAIL

Ms. Sharon Abbott
U.S. Army Corps of Engineers
1949 Industrial Park Road, Room 110
Conway, SC 29526
sharon.abbott@usace.army.mil



Re: Haile Gold Mine, Lancaster County, SC
P/N # SAC 1992-24122-4IA

Dear Ms. Abbott:

On January 28, 2011, the Charleston District of the U.S. Army Corps of Engineers (the "Corps" or "Charleston District") issued Joint Public Notice # SAC 1992-24122-4IA (the "JPN") that relates to the submittal of an application by Haile Gold Mine, Inc. ("HGM") for a permit under Section 404 of the Clean Water Act, 33 U.S.C. § 1344 (2010) ("CWA" or the "Act") "to construct and operate a gold mine in order to extract and process gold from the Haile ore body in Haile Gold Mine Creek at a location approximately 3 miles north of the City of Kershaw near the intersection US Highway 601 and Haile Gold Mine Road, Lancaster County, South Carolina." JPN at 1.

According to the JPN, the work consists of the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation of 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. Phased mining will take place involving eight open pits over a twelve year period ranging in depth from 110 to 840 feet. In each pit, the surface layer, consisting of the existing seed bank and growth media, will be removed and stockpiled for use during reclamation activities. Next, several tons of overburden will be excavated and stockpiled for future backfilling of the pit. Once the overburden is removed, ore will be mined using six-inch diameter bore holes, explosives and wheeled loading equipment to load 100-ton capacity off-road mining trucks. Following ore removal, the pit will be backfilled with overburden, and ore will be processed in onsite facilities. Once the gold has been extracted, the remaining material will be treated to maintain a pH between 8.0 and 8.5 and concentration of less than 50 ppm of cyanide and pumped to an approximately 600-acre Tailings Storage Facility ("TSF"). Once mining ceases, the TSF will be encapsulated, and any water leaching from the TSF will be monitored and treated prior to discharge into the Little Lynches River. JPN at 1-2.

On behalf of the South Carolina Wildlife Federation ("SCWF"), the National Wildlife Federation ("NWF"), and the Conservation Voters of South Carolina ("CVSC"), the Southern

Environmental Law Center (“SELC”) submits this comment letter to express our concerns about the proposal.

As an initial matter, we note that we have submitted a request to the Corps pursuant to the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552 (2010), requesting information needed to evaluate this proposal, including the permit application, any non-jurisdictional determinations, materials prepared pursuant to the National Environmental Policy Act, 42 U.S.C. § 4332 (2010) (“NEPA”), and other relevant information. Because the JPN fails to provide “sufficient information to give a clear understanding of the nature and magnitude of the activity to generate meaningful comment,” as required by 33 C.F.R. § 325.3(a), we may choose to supplement our comments once the Corps responds to our FOIA request.

1. HGM’s Application for a Section 404 Permit Fails to Satisfy the 404(b)(1) Guidelines.

Section 404(a) of the CWA, 33 U.S.C. § 1344(a), authorizes the Secretary of the Army, acting through the Corps, to issue permits for the discharge of dredged or fill materials into wetlands or other waters. Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1), directs the EPA to issue the Guidelines that define the circumstances under which dredged or fill material may be discharged into wetlands or other waters. Importantly, the Guidelines provide that the Corps shall not grant a Section 404 permit “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” 40 C.F.R. § 230.10(a). An alternative to discharge to a wetland “is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose.” 40 C.F.R. § 230.10(a)(2). Where a discharge is proposed for a wetland or other special aquatic site, all practicable alternatives to the proposed discharge that do not involve a discharge to the wetland “are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.” 40 C.F.R. § 230.10(a)(3). In addition, if the activity associated with a discharge to a wetland does not require access or proximity to or siting in a wetland (*i.e.*, is not “water dependent”), practicable alternatives that do not involve wetland sites “are presumed to be available, unless clearly demonstrated otherwise.” 40 C.F.R. § 230.10(a)(3).

Because the construction of a “viable mine and mill to recover precious metals from the Haile gold deposit”¹ is not a water-dependent activity, HGM must “clearly demonstrate” that no practicable alternatives exist that do not require a discharge into wetlands or other special aquatic sites. 40 C.F.R. § 230.10(a)(3). See *Shoreline Assocs. v. Marsh*, 555 F. Supp. 169 (D. Md. 1983), *aff’d*, 725 F.2d 677 (4th Cir. 1984). “[T]he applicant and the [Corps] are obligated to determine the feasibility of the least environmentally damaging alternatives that serve the basic project purpose. If such an alternative exists . . . the CWA compels that the alternative be

¹ It also appears that the applicant has chosen an unduly narrow statement of project purpose to artificially restrict the consideration of alternatives. See *Simmons v. United States Army Corps of Engineers*, 120 F.3d 664, 666 (7th Cir. 1997) (saying “[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence)”).

considered and selected unless proven impracticable.” Utahns for Better Transp. v. U.S. Dept. of Transp., 305 F.3d 1152, 1188-1189 (10th Cir. 2002). Under the CWA, “the test is whether the alternative with less wetlands impact is ‘impracticable,’ and the burden is on the Applicant . . . with independent verification by the [Corps], to provide detailed, clear and convincing information *proving* impracticability.” *Id.* at 1186 (emphasis in original). Here, the JPN simply does not provide enough information to indicate whether HGM has carried its burden.

2. The JPN Lacks Sufficient Information on the Proposed Mitigation Package.

In terms of mitigation, the JPN states only that HGM proposes to restore and enhance 14,565 linear feet of streams and place conservation easements on over 250 acres of riparian buffer, protecting approximately 47,150 linear feet of stream. JPN at § 1.4. The JPN goes onto to explain that the mitigation area is “ideal” because it is located in the same 8-digit watershed as the proposed mine, that the area proposed for mitigation is impaired under the CWA’s 303(d) list, and that the area has been a focus of conservation efforts by various entities. Notably, the JPN does not indicate whether HGM proposes any wetlands mitigation in addition to the proposed stream mitigation.

On April 10, 2008 the EPA and the Corps issued a Final Rule on Compensatory Mitigation for Losses of Aquatic Resources under section 404 of the Clean Water Act. See 73 Fed. Reg. No. 70, 19,594-19,687 (Apr. 10, 2008) (codified at 40 C.F.R. pt. 230.91 and 33 C.F.R. pt. 325 and 332) (hereinafter referred to as the “Rule”). The new Rule states:

For an activity that requires a standard DA permit pursuant to section 404 of the Clean Water Act, the public notice for the proposed activity must contain a statement explaining how impacts associated with the proposed activity are to be avoided, minimized, and compensated for. . . . *The level of detail provided in the public notice must be commensurate with the scope and scale of the impacts.*

33 C.F.R. § 332.4(b)(1) (emphasis added).

Given the scope and scale of the proposed mining proposal, the JPN simply does not contain enough information regarding the proposed mitigation package. For example, although the applicant concludes based on the “small” size of the watershed that the proposed mitigation package “will have a meaningful uplift on water quality,” there is no other information provided to help the public understand why the applicant has concluded that the amount of mitigation will replace lost aquatic resource functions. JPN at § 1.4. In other words, other than relying on the size of the watershed at issue, there is no indication whether appropriate functional or condition assessment methods or other suitable metrics were used to determine the amount of mitigation proposed. See 33 C.F.R. § 332.3(f). In these ways and others, the JPN lacks sufficient detail regarding the proposed compensatory mitigation plan in light of the scale and significance of the overall proposal.

3. The Corps Must Complete an Environmental Impact Statement for this Proposal.

When it passed NEPA, Congress declared a "broad national commitment to protecting and promoting environmental quality." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348 (1989). "The sweeping policy goals announced in § 101 of NEPA are ... realized through a set of 'action-forcing' procedures that require that environmental agencies take a 'hard look at environmental consequences.'" Id. at 350 (quoting Kleppe v. Sierra Club, 427 U.S. 390, 410 n. 21 (1976)). Under NEPA, a federal agency must prepare an environmental impact statement ("EIS") for any "major federal action significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C).

HGM's proposal is clearly the type of major federal action that will significantly affect the quality of the human environment. This proposal, which reportedly would comprise the largest gold mining operation east of the Mississippi River, includes the destruction of 162 acres of wetlands and about seven miles of streams. The proposed mining process also involves the use of toxic chemicals, such as cyanide, as part of its extraction process, which pose serious threats to water quality and aquatic species, including potential harm to the federally-listed Carolina heelsplitter. In addition to these impacts, it is our understanding that HGM is actively seeking to expand its gold mining operations to other nearby areas within South Carolina that comprise part of the Carolina Slate Belt. See 40 C.F.R. §1508.7 (saying NEPA requires the consideration of cumulative impacts, which are "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions); and 40 C.F.R. §1508.27(b)(7) (saying in determining under NEPA whether an EIS is required agencies should consider "whether the action is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. §1508.27(b)(7)). Given the scale of this project and its potential threats to the surrounding environment, an EIS must be required.

4. The Corps Must Carefully Evaluate Potential Impacts to Federally Endangered Carolina Heelsplitters.

Section 7 of the ESA requires that each federal agency "shall insure that any action authorized, funded or carried out by such agency...is not likely to jeopardize the continued existence of any" listed species "or result in the destruction or adverse modification of" the species' critical habitat. 16 U.S.C. § 1536(a)(2). In light of the toxic materials used in conjunction with the mining process, we are concerned that the proposal will result in harm to the federally endangered Carolina heelsplitter, which is known to inhabit Flat Creek. One concern is that the toxic materials used as part of the mining process will contaminate groundwater, degrading Flat Creek and harming the heelsplitter. For these reasons and others, the Corps must be sure to consult with U.S. Fish and Wildlife Service regarding potential impacts to endangered heelsplitters.

We appreciate the opportunity to comment on this proposal. Please feel to contact me if you wish to discuss this matter further.

Sincerely,

Christopher K DeScherer

WJ
Jm

Christopher K. DeScherer

cc: William Wenerick, SCDHEC
Morgan Wolf, USFWS
Jaclyn Daly, NMFS
Bob Lord, EPA
Bob Perry, SCDNR
Ben Gregg, SCWF
Jim Murphy, NWF
Ann Timberlake, CVSC

**United States Department of the Interior****FISH AND WILDLIFE SERVICE**

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407



June 29, 2011

Lt. Colonel Jason A. Kirk
District Engineer
U.S. Army Corps of Engineers
1949 Industrial Park Road, Room 140
Conway, SC 29526

Attn: Sharon Abbott

Re: P/N SAC 1992-24122-4IA, Haile Gold Mine, Inc., Response to Comments
Kershaw, Lancaster County, SC
FWS Log No. 2011-CPA-0059

Dear Colonel Kirk:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced public notice as well as the supplemental information provided by Haile Gold Mine, Inc. (HGM) on May 31, 2011, with regard to the effects the proposed project may have on Federal trust resources. Our comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), sections 401 and 404 of the Clean Water Act (33 U.S.C. 1341) and section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543). This letter also serves as official comments to the South Carolina Department of Health and Environmental Control.

After reviewing all information received to date, the Service continues to believe that the excavation and fill of 161.81 acres of wetlands and 38,775 linear feet of stream constitutes a major Federal action involving significant effects on the environment. Accordingly, the Service recommends that an Environmental Impact Statement be prepared for the project. Section 102(2)c of the National Environmental Policy Act, 42 USC § 4332 requires the preparation of an EIS to accompany Federal actions that may significantly affect the quality of the human environment.

Furthermore, the proposed project appears to be in direct conflict with the purpose and intent of the Clean Water Act. The Clean Water Act seeks to, *"restore and maintain the chemical, physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material."* The Clean Water Act also states that *"from a national perspective, the degradation or destruction of special aquatic sites, such as the filling of wetlands, is considered among the most severe environmental impacts covered by these guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources."* The Service finds that the degradation of valuable aquatic resources resulting from the proposed project includes:

- Adverse effects to aquatic ecosystem diversity, productivity, and stability;
- Reduction of available fish and wildlife habitat;
- Discharges that result in changes in water circulation, depth, current pattern, water fluctuation, and temperature;
- Restriction of movement of aquatic fauna;
- Changes in adjacent, upstream, and downstream areas;
- Affects to populations of fish, crustaceans, mollusks, and other food web organisms; and
- Loss or change of breeding and nesting areas, escape cover, travel corridors, and preferred food sources for resident and transient wildlife species associated with the aquatic ecosystem.

As stated in the Clean Water Act's 404(b)(1) guidelines "*when a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.*" The Service believes that the significant adverse environmental impacts that would result from development and operation of the proposed mine greatly outweigh the benefits.

Regarding ecological changes in the aquatic environment, in the *Response of Haile Gold Mine, Inc. to Request for Supplemental Information (P/N SAC 1992-24122-4)*, HGM states that "*The discharge of fill into waters of the State will result in enhancement of classified uses with no significant degradation to the aquatic ecosystem or water quality*" (Binder 1, page 53). The Service believes that this claim is unsupported by the information provided by HGM and is not scientifically sound in protecting the aquatic environment. Direct fill of streams and wetlands constitutes a major impairment to the function and health of ecosystems. In addition, HGM states several times throughout the document that "*The mine is expected to enhance pH, hardness, and alkalinity of the receiving waters with no significant degradation of classified and existing uses*" (Binder 1, page 76). Again, this claim is not supported by the accompanying information. The Service is concerned that comments such as these are contradictory to the established scientific facts and are potentially harmful to the purposes of environmental protection and accountability.

We recommend that you consider comments made by other Federal or State agencies regarding this project. If you have questions regarding this correspondence or need further assistance please contact Ms. Morgan Wolf at (843) 727-4707 ext. 219 and reference FWS Log No. 2011-CPA-0059.

Sincerely,



ACTING FOR

Jay B. Herrington
Field Supervisor

JBH/MKW

cc:

Ms. Kelly Laycock, U.S. Environmental Protection Agency, Atlanta, GA
Ms. Vivianne Vejdani, S.C. Department of Natural Resources, Columbia, SC
Ms. Jaclyn Daly, National Oceanic and Atmospheric Administration, Charleston, SC



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

June 30, 2011

Lt. Colonel Jason A. Kirk
District Engineer
Attn: Ms. Sharon Abbott
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Subject: Haile Gold Mine, Inc. - SAC 1992-24122-41A

Dear Lt. Colonel Kirk:

This letter is in response to supplemental information supplied by the applicant on the above referenced joint public notice (JPN). The information was in response to a letter sent by the U.S. Environmental Protection Agency on March 25, 2011. Haile Gold Mine, Inc. ("applicant") proposes to impact 161.81 acres of wetlands and 38,775 linear feet of streams to open pit mine an area over a 12-year period. The project is located near Kershaw, Lancaster County, South Carolina.

The EPA, Region 4, has reviewed the JPN and a considerable amount of supporting information dated May 26, 2011. The information included responses to U.S. Army Corps of Engineers (ACE) and other agencies' comments regarding the proposed Haile Gold Mine project.

The applicant cites example of previous projects that moved forward with an environmental assessment EA as reason that no Environmental Impact Statement (EIS) should to be required for this project. However, the level of the National Environmental Policy Act review is a case-specific determination based on the potential significance of the impacts considering both the context and intensity of the proposed action. Because of the broad and intensive nature of the impacts of mining activities on the environment, EISs have been prepared for over 40 mining projects.

In discussing the roll of mitigation measures, CEQ recently issued Mitigation and Monitoring Guidance is of interest. Per the Guidance, mitigation measures, included in the project design as an integral component of the proposed action, are implemented with the proposed action, and should be clearly described as part of the proposed action that the agency will perform or require to be performed. CEQ also encourages agencies to commit to mitigation to achieve environmentally preferred outcomes, particularly when addressing unavoidable adverse environmental impacts. However, per CEQ, agencies should not commit to mitigation unless they have sufficient legal authorities and expect that the necessary resources will be available to perform or ensure performance of the mitigation.

In our previous letters we asked for information concerning how the functions of the wetlands and the streams were assessed. The applicant supplied data showing that wetlands were assessed by using the Wetland Evaluation Technique (WET) method (Adamus et al. 1987). While stream assessment data sheets for the mitigation sites were supplied, stream functional assessments for impact sites were not discussed. The functions the applicant used to assess the proposed impacts are not necessarily the best to use in assessing pocosin wetlands. Many of the functions were considered low because the wetlands

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do not have prolonged ponding or open water. However, Fully functional pocosins typically become very dry for parts of the year. The function labeled as aquatic diversity/abundance was lowered because of a low pH, while a low pH is a defining characteristic of pocosins. Habitat is considered one of the most important functions of a pocosin. Because of their low nutrient, low pH nature, pocosins can have a unique, low diversity community. This function was not measured using the WET functional assessment tool. This information, coupled with our previous observations of the wetlands and streams during site visits, leads us to maintain our position that adequate evidence of impairment has not been shown.

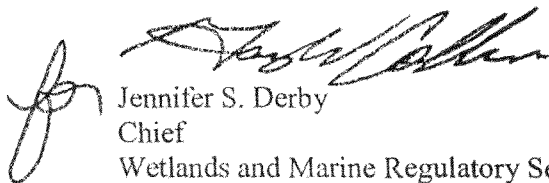
The modified conceptual mitigation plan includes more potential sites, generating what appear to be adequate credits for the proposed impacts. However, some portions of the plan are too vague for us to assess the adequacy of the mitigation. For example, success criteria for stream restoration are improved or maintained stream biology and water quality. The actual biological and water quality measurements should be stated and specific levels of success established. Also, the vegetation restoration success will be based on survival rate of planted stems but the specific survival required is not mentioned. Further, before permittee-responsible mitigation is considered, mitigation banks should be explored. According to the ACE web-based tool, RIBITS, 408 wetland credits and 27,880 stream credits are available within the 3040202 HUC.

The applicant states that calling resources on the proposed site Aquatic Resources of National Importance (ARNI) is not supported by the facts. As stated by the applicant, uniqueness and rarity are two factors to be considered in this determination. Clearly pocosins are a unique type of bog found along the coastal plains of the southeastern United States. These areas host unique organisms such as the venus flytrap, the sweet pitcher plant, and other carnivorous plants. The pocosin is also a rare wetland type with only ~1400 square miles left undisturbed. This is less than 32 percent of the undisturbed area in 1962. Thus, we contend that the 161.81 acres, classified as pocosin wetlands by the applicant, are indeed ARNIs.

In summary, since the proposed project has the potential to have a significant level of direct, indirect and cumulative impacts to a wide range of natural and human resources, we continue to recommend that the preparation of an (EIS is the most appropriate way to comprehensively assess these impacts. We recommend that the EIS address human health impacts, including potential impacts to private drinking water wells and other drinking water supplies. The scope of the EIS should also consider ecosystem functions and habitat, and the effects of the hydrologic modifications to the impacted watershed, as well as address the impact of deforestation and development on water quality, water quantity and other ecological conditions

Thank you for consideration of these comments and for the high level of coordination between your staff and the EPA on this project. If you have any questions, please contact Jennifer Derby at (404) 562-9401 or at derby.jennifer@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer S. Derby".

Jennifer S. Derby
Chief
Wetlands and Marine Regulatory Section

cc: Ms. Sharon Abbott, USACE
Mr. Tommy Fennel, USACE
Ms. Morgan Wolf, USFWS
Mr. Mark Leao, USFWS
Mr. Rusty Wenerick, SC DHEC
Ms. Vivianne Vejdani, SC DNR

**United States Department of the Interior****FISH AND WILDLIFE SERVICE**

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407



June 29, 2011

Lt. Colonel Jason A. Kirk
District Engineer
U.S. Army Corps of Engineers
1949 Industrial Park Road, Room 140
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Attn: Sharon Abbott

Re: P/N SAC 1992-24122-4IA, Haile Gold Mine, Inc., Response to Comments
Kershaw, Lancaster County, SC
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The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced public notice as well as the supplemental information provided by Haile Gold Mine, Inc. (HGM) on May 31, 2011, with regard to the effects the proposed project may have on Federal trust resources. Our comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), sections 401 and 404 of the Clean Water Act (33 U.S.C. 1341) and section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543). This letter also serves as official comments to the South Carolina Department of Health and Environmental Control.

After reviewing all information received to date, the Service continues to believe that the excavation and fill of 161.81 acres of wetlands and 38,775 linear feet of stream constitutes a major Federal action involving significant effects on the environment. Accordingly, the Service recommends that an Environmental Impact Statement be prepared for the project. Section 102(2)c of the National Environmental Policy Act, 42 USC § 4332 requires the preparation of an EIS to accompany Federal actions that may significantly affect the quality of the human environment.

Furthermore, the proposed project appears to be in direct conflict with the purpose and intent of the Clean Water Act. The Clean Water Act seeks to, *"restore and maintain the chemical, physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material."* The Clean Water Act also states that *"from a national perspective, the degradation or destruction of special aquatic sites, such as the filling of wetlands, is considered among the most severe environmental impacts covered by these guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources."* The Service finds that the degradation of valuable aquatic resources resulting from the proposed project includes:



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
(727) 824-5317; FAX (727) 824-5300
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June 30, 2011

F/SER47:JD/pw

(sent via electronic mail)

Lt. Colonel Jason Kirk, Commander
Charleston District Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Attention: Sharon Abbott

Dear Colonel Kirk:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the supplemental information prepared by Haile Gold Mine, Inc. (HGM), in response to comments from the Charleston District and resource agencies (our letter to the District is dated March 25, 2011) regarding public notice 1992-24122-41A. Our review of the additional information focuses on two themes: compliance with the National Environmental Policy Act (NEPA) and HGM's Impact Assessment.

National Environmental Policy Act

Several agencies highlighted the need for the Charleston District to prepare an Environmental Impact Statement (EIS) to satisfy requirements of NEPA and to adequately address human and environmental impacts from the proposed action. In response, HGM contends that the Charleston District's scope of environmental analysis should be limited to the action it would be authorizing: filling streams and wetlands. The applicant states that "In the context of the HGM proposed mining project, other than the filling of wetlands, all regulatory control is the responsibility of DHEC. The Corps' narrow regulatory authority under CWA Section 404, as compared to the broad grant of responsibility given to DHEC under state law, supports a correspondingly narrow scope of analysis of HGM's 404 Permit application under NEPA and CWA 404(b)(1)." The applicant also claims that the Charleston District's NEPA obligation would be met by preparing an Environmental Assessment (EA) or adopting the EA prepared by HGM.

NMFS disagrees with the applicant's approach to satisfying NEPA requirements. With respect to whether an EA or EIS is prepared, in our letter dated March 25, 2011, we indicated that gold mining in South Carolina has resulted in significant impacts on the environment (a trigger for an EIS). Throughout their response and revised mitigation plan, HGM supports this finding. For



example, on page 45 of the response, HGM states “The Corps is processing the 404 permit application to excavate and recover gold ore from and near wetlands severely impaired by historic mining at the site.” HGM’s claim that the Corps should not prepare an EIS because the system is “severely impaired” is not in accordance with NEPA. Finally, HGM claims the Corps has successfully issued EAs for other mining projects; however, these have not gone forward without litigation and, in some cases, the Corps was found initially to be arbitrary and capricious in preparing an EA and not an EIS (e.g., *Ohio Valley Environmental Coalition v. Aracoma Coal Co.*, 556 F.3d 177, 191-192 (4th Cir. 2009). Based on the information provided above, the fact that approximately 162 acres of wetlands and seven miles of streams would be directly impacted from opening the mine (as proposed, it would be the largest gold mine east of the Mississippi) and the known significant environmental impacts of gold mining, we recommend that the District’s scope of action should include construction, operation, and post-closure activities (not just the placement of fill as recommended by the applicant) of the mine with clear articulation of the direct, indirect, and cumulative impacts of each phase.

With respect to scope of the project under analysis, we believe the Corps’ regulations for implementing its NEPA requirements (33 C.F.R. part 325, Appendix B) direct the Corps to fully consider the “environmental consequences of the additional portions of the projects are essentially products of federal financing, assistance, direction, regulation, or approval” (33 C.F.R. part 325), and that these regulations are supported by case law.

HGM’s Impacts Assessment

In response to agency comments, HGM submitted a general response document and 27 attachments comprising over 1,000 pages. This is in addition to HGM’s 120 page EA. The Charleston District allowed NMFS 30 days to review this material. NMFS failed to find evidence that HGM adequately addressed concerns described in our previous letter. We found the information provided no clear justifications for the determinations made. For example, the applicant states multiple times that “the mine is expected to enhance pH, hardness, and alkalinity of the receiving streams with no significant degradation of classified and existing uses” without discussing the multiple steps leading to this determination and the meaning to aquatic resources. In addition, the multiple memos provided in appendices were preliminary ecological risk assessments with little specific information.

Information NMFS needs to determine the impacts of the project include a more clear understanding of:

- The impacts to aquatic resources from the proposed action and viable alternatives.
- The effectiveness of HGM’s operation plan at lessening impacts to aquatic resources.
- The Amounts of arsenic, free cyanide and other metals and pollutants expected to enter HGM creek and adjacent tributaries and rivers in units comparable to South Carolina Department of Health and Environmental Control (DHEC) thresholds for impacts to freshwater aquatic fishes.
- HGM’s monitoring plan designed to detect construction-related, operational and post-closure impacts on aquatic fisheries (including downstream of the site).

In addition, there have been two catastrophic events in South Carolina at Ridgeway and Brewer gold mines. HGM does not present an adequate management plan for dealing with such disasters

should they occur. Finally, the appropriateness of the mitigation plan needs to be discussed as much of the restoration is out-of-kind and success criteria are questionable. Interagency meetings with the District and the applicant and preparation of an Environmental Impact Statement would aid in these information needs and allow NMFS to better evaluate project impacts.

We appreciate the opportunity to provide these comments. Please direct related questions or comments to the attention of Jaclyn Daly at our Charleston Area Office. She may be reached at (843) 762-8610 or by e-mail at Jaclyn.Daly@noaa.gov.

Sincerely,



/ for

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:

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SCDNR, VejdaniV@dnr.sc.gov
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DNR

South Carolina Department of Natural Resources

John E. Frampton
Director

June 30, 2011

LTC Jason A. Kirk, PE
U.S. Army Corps of Engineers
Charleston Regulatory Office
69-A Hagood Avenue
Charleston, South Carolina 29403

Ms. Heather Preston
SC Department of Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

REFERENCE: SAC #1992-24122-41A Haile Gold Mine, Inc.

Dear LTC Kirk and Ms. Preston,

In correspondence dated March 30, 2011, the South Carolina Department of Natural Resources (DNR) submitted comments on the Joint Public Notice for the Haile Gold Mine (HGM) expansion project, dated January 28, 2011 and the Haile Gold Mine, Inc. (Applicant) Environmental Assessment (EA), dated December 3, 2010. In that comment letter, DNR requested additional information regarding a number of different issues related to the application and EA. In response to DNR and other resource agency comments and requests for additional information, the Applicant has submitted the Response of Haile Gold Mine, Inc. to Request for Supplemental Information (SI), with appendixes, dated May 26, 2011. DNR staff has reviewed the SI and appendixes.

DNR appreciates the detail and thoroughness of the SI. However, many of the originally submitted issues and concerns have not been adequately addressed. The following is an enumeration of outstanding issues and concerns.

DNR requested information regarding the scope and extent of anticipated future mining with a complete analysis of calculated impacts to include indirect and cumulative impacts. The SI provided only a rationale for land purchase, or land purchase strategy. The SI indicates that there is no plan for future expansion. In the event that future mining is expanded beyond the current permit boundary, and if future mining involves impacts to waters of the United States which will trigger the need for a new § 404 permit, then those impacts should be considered with these of the currently proposed activity in order to evaluate the project as a whole with regard to cumulative impact.

DNR requested additional information on the alternatives analysis, including other possible design alternatives for placement of the Tailings Storage Facility (TSF) that would avoid wetlands and streams. In particular, DNR requested information on Alternatives 7 and 11. DNR closely examined all alternative sites, as well as potential sites not identified in the Supplemental

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LTC Jason A. Kirk and Ms. Heather Preston
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June 30, 2011

Alternatives Analysis. Each of these potential sites was determined to be infeasible for a variety of reasons, including natural resource impacts, residence/farm impacts and adjacency to churches and/or roads. The preferred alternative is likely the most feasible site. However, DNR remains concerned that the preferred alternative would result in loss of 6,888 linear feet of headwater tributaries and 50.29 acres of associated wetlands of Camp Branch, a relatively unimpacted stream system. The headwater system of Camp Branch provides an important link between the upland watershed and downstream aquatic environment. Detritus produced in these areas serves as an important energy source for aquatic food chains in downstream Camp Branch, adjoining creeks and the Little Lynches River. Associated forested wetlands provide food, cover and nesting sites for a variety of wildlife species and function as a biofilter, removing sediment and absorbing pollutants and nutrients from the surrounding watershed. The loss of these functions and services represent new impacts outside of the existing, historical mine impact area and comprise 17% and more than 31% respectively of the total proposed project stream and wetland impacts.

DNR requested confirmation that there will be no additional impacts to Camp Branch as related to the proposed TSF to include all indirect and cumulative impacts to portions of Camp Branch that are just outside the TSF dike. The SI indicates that additional fill impacts to Camp Branch, other than what has already been identified, will not occur, and that 50 feet of buffer will be observed between the stream and the northern edge of the TSF. Information on how the buffers will be maintained is not provided. DNR recommends the buffer be maintained in a natural state. According to the Water Quantity and Quality Study conducted by Ecological Research Consultants (ERC), the TSF will intercept flow and it is estimated that this will reduce flow in Camp Branch by 16-21% during active mining operations. Potential impacts to Camp Branch downstream of the TSF include habitat degradation due to flow reduction, loss of detritus, sedimentation and fragmentation effects.

The ERC study also examined potential active mine operations impacts to water quality in Camp Branch, Haile Gold Mine Creek and the Little Lynches River downstream of the confluences of Camp Branch Creek and Haile Gold Mine Creek. Water quality post closure was evaluated in the Post Closure Water Quality Impact Evaluation. Both studies estimate an overall increase in major ions and total dissolved solids for Camp Branch, Haile Gold Mine Creek and Little Lynches River. Increases in arsenic, antimony, cadmium, copper, lead, manganese, selenium and thallium were predicted for Haile Gold Mine Creek. DNR notes that mean daily flow is used for active mining analyses and mean annual flow for post-closure. Studies should be conducted assuming drought of record low flows to capture potential water quality impacts during low flow periods.

A full accounting of direct and indirect impacts to onsite wetlands and streams was requested, to include mitigation calculations for biological and hydrological impairments likely to occur through shading, fragmentation and sedimentation. The Applicant has not provided an accounting of secondary impacts and has not included these areas in the proposed required credit calculations. DNR recommends that the required credit calculation be adjusted to include all wetlands and streams likely to experience secondary impacts.

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DNR requested an accounting of water quality and water quantity impacts that could impinge on future downstream resources, withdrawals or assimilative capacity including monitoring plans for potential contaminant metals during mining and post closure. Page 42 of the SI states:

HGM will have many operating and maintenance manuals and plans prepared for each critical facility that detail proper operating and maintenance procedures, routine monitoring, chemical handling and usage, safety, industrial hygiene, and spill response...

The Applicant has not provided a contingency plan or emergency protocol plan. A Spill Prevention Controls and Countermeasures Plan and the Stormwater Pollution Prevention Plan, which inventories potential pollutants and includes procedures for remediating leaks and spills, will be updated for the mine but are not included in the SI. DNR remains concerned over the potential for chronic and/or catastrophic contamination events that may occur both onsite through human or mechanical error (e.g., a breach in the TSF embankment could transport tailings containing lethal concentrations of cyanide to Camp Branch and the Little Lynches River) and off-site during transport of hazardous wastes. DNR requests consultation with the Department of Health and Environmental Control (DHEC) in the development of water quality monitoring plans for Camp Branch, Haile Gold Mine Creek and Little Lynches River downstream of the mine. These monitoring plans should include appropriate biological monitoring. DNR requests as a potential permit condition courtesy notification in concert with DHEC of significant excursions or contamination events should the proposed project be permitted.

The use of the term *temporary* throughout the SI regarding impacts is misleading; proposed project impacts to water quality, hydrology and wildlife and aquatic habitat would be on the order of decades, particularly in the event that mining operations were to be extended both spatially and temporally. The Charleston District Guidelines for Preparing a Compensatory Mitigation Plan (Mitigation Guidelines) indicates *temporary* means *impacts will occur for a period of one year or less...* DNR considers temporary impacts to be more on the order of days, or at most, weeks; the impacts from the proposed project would be for the life of the mine including during the lengthy period of mine closure and reclamation.

Likewise, throughout the SI there is reference to *enhancement* of pH. This also is misleading. Sandhills streams often are naturally low in pH and the increased pH estimated in water quality analyses would be more properly identified as an effect, not as an *enhancement*.

Many of the studies lack sufficient detail and or are technical memoranda or preliminary studies or assessments. For example, the Water Quantity and Quality Technical Memorandum on the Toxicity of Cyanide to Wildlife, the Memorandum on the Preliminary Evaluation of Ecological Impacts to Adjacent Areas and the Technical Memorandum on Surface Water Quantity and Quality Affects. These assessments do not provide sufficient detail to adequately assess potential impact or risk to natural resources.

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June 30, 2011

The SI notes that the TSF is located in an area previously disturbed by silviculture and implies that the impact of the TSF to these lands is therefore less significant. Silviculture and agriculture historically have been practiced on the site and these land uses are compatible with the surrounding landscape. It is misleading to minimize loss of headwater stream and wetland habitat and associated uplands by downgrading the resource based on historical relatively low-impact land use practices.

DNR does not agree with the conclusion in the Cumulative Effects Analysis that cumulative effects from mining are not expected to site hydrology. Although the numerical groundwater modeling in the HGM Depressurization and Dewatering Study appears proper, and the results of the modeling suggest that the dewatering of the HGM property will have little to no impact on groundwater conditions adjacent to the HGM property, DNR concludes the true impact of the dewatering activity on groundwater conditions outside of the HGM property remains generally unknown and unpredictable.

DNR recommends HGM establish and maintain a network of wells around the perimeter of the mine property to monitor groundwater levels in the Coastal Plain sediments, saprolite and fractured bedrock aquifers. The establishment of such a network should be completed before any depressurization activity begins so that initial baseline data can be collected. Data collected from these monitoring wells should be made available to DNR and DHEC.

DNR recommends the Applicant contract with the United States Geological Survey to install and operate a surface-water gauging station on the Little Lynches River downstream of the HGM property, ideally at the Highway 157 Bridge (about 1.5 miles east of the Town of Kershaw). As with the groundwater monitoring network, this gauge should be established before any depressurization or dewatering activity begins so that initial baseline data can be collected.

DNR also does not agree with the rationale that significant secondary and cumulative effects will not be expected to affect remaining onsite wetlands because the dominant wetland type, Palustrine Forest, is accustomed to varying hydrologic regimes. The HGM site is characterized by a network of wetland complexes fed by surface water flow and groundwater. Filling and excavation of more than 160 acres and nearly 39,000 linear feet of stream will alter surface flow patterns and groundwater table elevation, which will lead to changes in inundation periods and changes in vegetation composition with concomitant loss of wetlands.

DNR is not satisfied the Reclamation Plan will restore Haile Gold Mine Creek, North Fork Creek and associated wetlands to a near-natural state. It appears from review of the Reclamation Plan that, post-closure, Haile Gold Mine and North Fork Creek will exist as hard-armored, engineered structures with water controls, lacking diversity of substrate, vegetation and woody debris. Water quality in Haile Gold Mine Creek and the pit lake will take decades to stabilize. The pit lake will left as a sterile environment. There is no indication in the Reclamation Plan that wetlands will be restored where possible. DNR requests continued assurance of consultation and involvement in reclamation plans to ensure the maximum opportunity to restore natural resource functions and provide public use and natural resource economic opportunities on the site upon mine closure if not before.

Additional potential secondary impacts include wildlife mortality from cyanide exposure in the TSF and/or decant pond. The SI indicates that tailings will be treated to a sodium cyanide concentration of less than 50 ppm. The Technical Memorandum on the Toxicity of Cyanide to Wildlife included in the SI provides a summary of toxicity studies with examples from the literature. DNR notes that in the Logsden et al (2009) study, some bird mortality occurred at weak acid-dissociable cyanide exposures of less than 50 mg/L (50 ppm). The Memorandum points out that inconsistent maintenance of cyanide concentrations can lead to mortalities at facilities maintaining a tailings concentration of less than 50 ppm. Inconsistent maintenance is therefore of concern, and there is no indication that the Applicant plans to employ wildlife exclusion devices or techniques. DNR remains concerned that significant wildlife mortality can occur from exposure to cyanide in the TSF and/or the decant pond.

The Applicant must bear the burden of demonstrating that adverse impacts have been avoided and minimized to the greatest practicable extent. DNR maintains the Applicant has not fully met this burden. We remain concerned over the potential for direct, indirect and cumulative adverse impacts associated with construction, operation and post-closure activities of HGM. Although it is premature to consider compensation for unavoidable impacts until such time as the Applicant has met the test of avoidance and minimization, DNR understands that a conceptual mitigation plan is a required component of a complete application.

DNR has reviewed the Revised Conceptual Mitigation Plan (Revised CMP) and offers the following comments. The Applicant is proposing Permittee Responsible Mitigation (PRM) to include a combination of restoration, enhancement and preservation as compensation for the loss of 38,775 linear feet of stream and 160.81 acres of wetlands within the Lynches River watershed (HUC 03040202). The Lynches River watershed contains portions of the Southern Piedmont Level III Eco-Region and the Southeastern Plains Level III Eco-Region. According to the Revised CMP, portions of the impacts occur in the Piedmont Eco-Region and portions occur in the Southeastern Plains Eco-Region. However, virtually all of the streams and wetlands impacted are Sandhills type streams. The Revised CMP correctly identifies the Sandhills Level IV Eco-Region as a unique and limited resource in South Carolina, home to a host of conservation priority species (2 crayfish species, 6 fish species and 19 mussel species, 73% of total mussel species listed for the state).

The Applicant's PRM includes 11 mitigation sites, a combination of out-of-kind (Piedmont type) and in-kind (Sandhills type) stream systems, not including additional sites (*other sites*) yet to be determined that may become incorporated into the Revised CMP. Overall, the Revised CMP is fairly thorough in detail. Effort has been made to consider the needs of the watershed and mitigation areas are placed to enhance conservation areas and improve water quality in 303(d) listed streams. Mitigation activities are designed to improve water quality by removing sources of fecal coliform (cattle) and to provide ecological uplift to Carolina heelsplitter (*Lasmigona decorate*) and Sandhills chub (*Semotilus lumbee*) habitat.

DNR recognizes the Revised CMP is conceptual in nature; however, there is significant uncertainty regarding proposed mitigation sites, as some sites are still under negotiation. The

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SAC #1992-24122-4IA Haile Gold Mine, Inc.
June 30, 2011


Revised CMP makes reference to 3 additional sites that may become a part of the plan (*Big Sandy Add-Ons, Fork Creek and the Lindsay tract*) while others may be removed from consideration. The Revised CMP indicates that mitigation sites may be protected with restrictive covenant where it is not possible to secure a conservation easement, presumably because these lands are not under the control of the Applicant. Restrictive covenants are not an appropriate protective mechanism and are generally not acceptable for large mitigation projects. In some areas 50-75 feet of buffer is proposed. Minimum average buffer width should be at least 150 feet. Less than 25% of the overall proposed linear feet of stream restoration can be described as in-kind (15,269 linear feet). As calculated by the Applicant, required credits are estimated to be 296,396 stream and 1,842 wetland credits. The amount of credit proposed in the Revised CMP is barely more than the minimum required (106% stream, 105% wetland). For a project having this amount of impact to waters of the United States, DNR believes that substantially more mitigation should be required for the proposed project because the Mitigation Guidelines should only be used as a general reference for impact calculations as it is not designed to adequately enumerate the required mitigation for projects having large impacts.

DNR understands the Applicant may be requesting of the Charleston District Army Corps of Engineers a Mitigated Finding of No Significant Impact (Mitigated FONSI) determination. In light of the high degree of uncertainty of potential risk from contamination events and the magnitude and duration of secondary and cumulative impacts, DNR asserts that the mitigation proposed does not adequately offset direct, indirect and cumulative impacts to the level required for a Mitigated FONSI determination. Any Mitigated FONSI determination also should require mitigation up front, rather than conceptually proposed.

In summary, DNR has reviewed the Applicant-provided additional information. A number of questions DNR had about the proposed project upon review of the application and EA have been reasonably answered. However, there remains a level of uncertainty that concerns DNR, particularly in the arena of water quantity and quality. DNR recommends that level of uncertainty must be resolved before any permits are issued. Furthermore, the Applicant has not provided a plan that adequately mitigates for the significantly large amount of wetland and stream impacts that will occur as a result of the proposed activity, and the mitigation package, to date, falls far short of that required for a Mitigated FONSI determination. In light of these cited factors, DNR recommends that no permits be issued until these issues are resolved and until an Environmental Impact Statement is prepared for the proposed project.

If you have any questions regarding these comments, please contact Bob Perry of my staff at 803.734.3766 or at perryb@dnr.sc.gov.

Sincerely,



John E. Frampton
Director

LTC Jason A. Kirk and Ms. Heather Preston
SAC #1992-24122-41A Haile Gold Mine, Inc.
June 30, 2011

ec: Bob Lord – USEPA
Pace Wilber – NMFS
Jaclyn Daly – NMFS
Tina Hadden – USACE
Travis Hughes – USACE
Tommy Fennel – USACE
Sharon Abbott – USACE
Jay Herrington – USFWS
Mark Caldwell – USFWS
Morgan Wolf – USFWS
John Fridell – USFWS
Chuck Hightower – DHEC
Chris Beckham – DHEC
Kent Coleman – DHEC
Ann Clark – DHEC
Myra Reece – DHEC
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Don Winslow
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June 30, 2011

VIA E-MAIL AND U.S. MAIL

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Heather Preston, Director
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Re: Haile Gold Mine, Lancaster County, SC
P/N # SAC 1992-24122-4IA

Dear Ms. Hadden and Ms. Preston,

We are writing on behalf of the South Carolina Wildlife Federation, the National Wildlife Federation, and the Conservation Voters of South Carolina in response to the U.S. Army Corps of Engineers' request for comments related to the submission of additional information by Haile Gold Mine, Inc. ("HGM") for the above-referenced project. Specifically, we have been asked by the Corps whether the conservation groups still believe that an environmental impact statement ("EIS") is required for this mining proposal under the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4332, et seq. (2011).

Since we submitted our original comments on this application, we have had several conversations with representatives of HGM and have had the opportunity to visit the site. We greatly appreciate the mining company's willingness to engage the conservation community in these ways. At the same time, however, HGM has now submitted more than 4000 pages of additional material in responding to comments. Many of these documents contain highly technical information related to the mining process, the toxicity of chemicals used in the mining process, water consumption, impacts to groundwater, wastewater and storm water management, and air emissions (to name a few). We have had access to this information for about one month, which, unfortunately, is not sufficient time for us to adequately review this material.

As we mentioned in our previous comments, this proposal, which reportedly would comprise the largest gold mine east of the Mississippi River, includes the potential for major and long-lasting impacts to significant aquatic resources, including 161.81 acres of jurisdictional, freshwater wetlands and 38,775 linear feet of streams. The mine is slated to have eight pits excavated to depths of nearly 900 feet, a disruption several magnitudes larger than any previous operations on the site, and two of those pits are planned to be left as open ponds after the mine's operations cease.

Furthermore, it is our understanding that there is additional exploration occurring within the Carolina Slate Belt, which could lead to several more projects of this scale being developed in the coming years. Allowing one mine to be established without the appropriate public involvement and study due under NEPA could leave future projects with a weak foundation of understanding and analysis as well.

In sum, given the significance of the potential impacts to waters of the United States and other resources, the inherent dangers of gold mining, and the short timeframe within which the conservation groups have had to review the extensive technical information submitted by HGM, we are not able at this time to withdraw our request for an environmental impact statement. In light of the nature of the proposed activity, the conservation groups believe the highest level of scrutiny and public involvement is required under NEPA.

We understand the Corps' desire to determine whether an EIS is required prior to Lieutenant Colonel Kirk's departure in July 2011, and we appreciate the opportunity to weigh in further on this issue. In the meantime, we will continue to diligently review and assess the information provided, and we look forward to continued discussions with the Corps, DHEC, HGM, and other interested parties as the review process for this proposal moves forward.

Sincerely,



Christopher K. DeScherer

cc: Sharon Abbott, Corps
William Wenerick, SCDHEC
Morgan Wolf, USFWS
Jaclyn Daly, NMFS
Kelly Laycock, EPA
Bob Perry, SCDNR
Ben Gregg, SCWF
Jim Murphy, NWF
Ann Timberlake, CVSC

Appendix I

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc.

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc.

Issue	Substance of Comments	Approximate Number of Comments
Permits and Regulations	<p>The Project does not comply with the Section 404 (b)(1) Guidelines (including the 2008 Mitigation Rule).</p> <p>The Project appears to be in direct conflict with the purpose and intent of the Clean Water Act.</p> <p>It is unclear how anticipated potential mining expansion would be handled with respect to permitting requirements.</p> <p>It is unclear if the permit is being processed as a new activity or a modification to the original permit.</p> <p>The South Carolina Department of Natural Resources (SCDNR) recommends concurrent permit review and approval by the South Carolina Department of Health and Environmental Control (SCDHEC) for all required state permits.</p> <p>The Joint Public Notice (JPN) does not provide enough information to indicate whether Haile Gold Mine, Inc. has evaluated all reasonable alternatives to the Project with regard to the Section 404 permit.</p> <p>The U.S. Army Corps of Engineers (USACE) must complete an EIS for this Project.</p>	7
Alternatives	<p>Provide a construction alternatives analysis with justification on selection of a preferred alternative.</p> <p>Provide additional information on the alternatives analysis, including alternatives for placement of the tailings storage facility (TSF) that would avoid wetlands and streams.</p> <p>The alternatives information provided does not demonstrate that impacts have been avoided or minimized to the greatest practicable extent.</p> <p>More information is requested for the selection criteria for off-site Alternatives #11 and #7.</p> <p>SCDNR is particularly interested in an alternative site for the TSF in order to avoid impacts on Camp Branch, a relatively high-functioning stream system.</p> <p>SCDNR encourages the Applicant to avoid impacts to the greatest extent for non-pit facilities with the use of alternative design configurations or locations.</p>	6

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Ecosystem and Watershed	<p>The Project would impact the Haile Gold Mine watershed, a tributary to Little Lynches River. Discharges of pollutants directly or indirectly to Little Lynches River may exacerbate the poor biological conditions in this run of Little Lynches River.</p> <p>Many of the streams and wetlands that will be impacted may not actually be as impaired as suggested in the January 2011 submittals. These streams and wetlands are important in maintaining the physical, chemical, and biological integrity of aquatic resources in the watershed.</p> <p>Streams and wetlands in the Project Area are Aquatic Resources of National Importance (ARNI).</p> <p>Consider the ecosystem function and habitat, and the effects of hydrologic modifications to the impacted watershed.</p> <p>Address the impact of deforestation and development on water quality, water quantity, and other ecological conditions.</p> <p>Many of the studies do not provide sufficient detail to adequately assess potential impacts or risk to natural resources.</p> <p>Information provided implies that the impact of the proposed TSF is less significant to lands that were previously disturbed by silviculture. It is misleading to minimize the loss of headwater stream and wetland habitat and associated uplands by downgrading the resource based on historical, relatively low-impact land use practices that are compatible with the surrounding landscape.</p> <p>There are no estuarine habitats in the vicinity of the proposed Project site.</p>	8
Surface Water and Groundwater Quality and Supply	<p>There are potential direct impacts on groundwater resources from construction of mining pits that would be nearly 900 feet deep.</p> <p>Assess potential impacts on surface water resources and surface water flow as it relates to water quality.</p> <p>Provide groundwater modeling and characterization studies and results in the EIS.</p> <p>Conduct studies assuming drought or record low flows in order to capture potential water quality impacts during low-flow conditions.</p> <p>Provide accounting of water quality impacts that could impinge on future downstream resources, withdrawals, or assimilative capacity—including monitoring plans for potential contaminant</p>	19

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Surface Water and Groundwater Quality and Supply (Continued)	<p>metals during mining and post-closure.</p> <p>Consult with DHEC in development of water quality monitoring plans for Camp Branch, Haile Gold Mine Creek, and Little Lynches River downstream of the mine; monitoring should include appropriate biological monitoring.</p> <p>What changes might we expect in the streams that border the mine site?</p> <p>Would water from a well in an area that borders the mine property be safe to drink?</p> <p>Is the water table going to be affected?</p> <p>The proposed mine is sited near the headwaters of the Little Lynches River, where runoff and discharge from the mine site would negatively impact water quality.</p> <p>The Applicant is proposing to contain contact water within the TSF; however, it is unclear how the water level would be maintained.</p> <p>The cattle exclusion and riparian buffers planned for the Little Lynches River site would directly assist in lowering fecal coliform levels; but water quality impacts from the mine, which are not fecal-related, are not addressed.</p> <p>Impacts on surface water and groundwater quality and supply are not adequately addressed.</p> <p>SCDNR requests additional information on associated minerals that may be present in the overburden and that could potentially contribute to acid mine runoff and contaminate surface waterbodies.</p> <p>SCDNR is concerned that metal contamination could become an issue for downstream municipal or industrial water users.</p> <p>SCDNR requests an analysis of the effect of diverting water from Camp Branch and Haile Gold Mine Creek, in consultation with SCDNR. This analysis should include mean average daily flow, seasonality of instream flow, proportional contributions to downstream Lynches Creek, and the magnitude of instream flow impacts due to water diversions.</p> <p>Establish and maintain a network of wells around the perimeter of the mine to monitor groundwater levels in the Coastal Plain sediments and in the saprolite and fractured bedrock aquifers, and make the data collected available to SCDNR and SCDHEC.</p>	

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Surface Water and Groundwater Quality and Supply (Continued)	<p>Contract with the U.S. Geological Survey to install and operate a surface water gauging station on the Little Lynches River at the Highway 157 Bridge.</p> <p>Establish monitoring activities before any depressurization or dewatering activity begins so that initial baseline data can be collected.</p>	
Aquatic Resources	<p>Provide a clearer understanding of the impacts on aquatic resources from the proposed Project and alternatives because the information provided gave no clear justifications for the determinations made.</p> <p>Provide additional information on the amounts of metals and pollutants expected to enter aquatic environments in comparison to thresholds set by SCDHEC.</p> <p>Provide a clearer understanding of the effectiveness of Haile's operation plan at lessening impacts on aquatic resources.</p> <p>Maintain the proposed 50-foot buffer between the stream and the northern edge of the TSF in a natural state.</p> <p>Potential impacts on Camp Branch downstream of the TSF include habitat degradation due to flow reduction, loss of detritus, sedimentation, and fragmentation.</p> <p>The National Marine Fisheries Service offers no conservation recommendations to protect essential fish habitat.</p> <p>The Little Lynches River and Lynches River are historically important habitat for National Oceanic and Atmospheric Administration trust resources, including shortnose sturgeon (<i>Acipenser brevirostrum</i>), American shad (<i>Alosa sapidissima</i>), alewife (<i>Alosa pseudoharengus</i>), blueback herring (<i>Alosa aestivalis</i>), striped bass (<i>Morone saxatilis</i>), and American eel (<i>Anguilla rostrata</i>)—although the presence of these species has greatly diminished in recent decades due to agricultural and industrial pollution.</p> <p>Presently, the Pee Dee River is important spawning habitat for anadromous fish.</p> <p>Fish kills from accidental discharges of cyanide gold mining wastes are common and can result in both lethal and sub-lethal aquatic impacts.</p>	9

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Wildlife and Vegetation	<p>Secondary impacts on wildlife include mortality from cyanide exposure in the TSF and/or decant pond; inconsistent maintenance of cyanide concentrations can lead to mortalities at facilities maintaining a tailings concentration of less than 50 parts per million (ppm).</p> <p>There are no plans to use wildlife exclusion devices or techniques.</p> <p>How will the wildlife in the area be affected?</p> <p>SCDNR believes that a coordinated mine closure reclamation strategy could benefit a number of wildlife species, particularly grassland birds.</p> <p>SCDNR is concerned that significant wildlife mortality may result from ponding in the approximately 600-acre TSF.</p> <p>A toxicity study has not been performed to indicate that tailings treated to contain a concentration of less than 50 ppm sodium cyanide would be safe for wildlife.</p>	6
State- and Federally Listed Species	<p>Consider impacts on trust resources, such as threatened and endangered species, critical habitat, and migratory birds.</p> <p>The U.S. Fish and Wildlife Service (USFWS) concurs with a determination that the Project is not likely to adversely affect any federally protected species or designated or proposed critical habitat.</p> <p>The sandhills chub (<i>Semotilus lumbee</i>), has been documented to occur in Camp Branch and would be affected by a significant loss of habitat.</p> <p>In light of the toxic materials used in conjunction with the mining process, we are concerned that the proposal will result in harm to the federally endangered Carolina heelsplitter, which is known to inhabit Flat Creek.</p> <p>The USACE must be sure to consult with USFWS regarding potential impacts on endangered heelsplitters.</p>	5

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Land Use	<p>My family and I are very much concerned about possible negative effects on 169 acres of our property that faces the proposed mining pits.</p> <p>How would any changes to the water table affect the timber crop on our land?</p> <p>It would be a serious matter for us should our land be rendered less productive or desirable than it is now.</p>	3
Cultural Resources	<p>Has an archaeological survey been conducted in the areas where there will be ground disturbance? If not, we would require one before we could approve of the Project since this Project is subject to Section 106 of the National Historic Preservation Act.</p> <p>A number of sites within the Area of Potential Effect meet the criteria for listing in the National Register of Historic Places.</p>	2
Human Health	<p>Address potential human health impacts, including potential impacts on private drinking water wells and other drinking water supplies.</p> <p>Leakage and discharge of gold mine byproducts can cause harmful environmental impacts on water quality for both humans and natural resources.</p> <p>Any mercury contamination downstream of the Project must be avoided because downstream reaches are already at levels to cause fish consumption advisories.</p>	3
Mining Operations	<p>A water treatment facility with a capacity of 1,200 gallons per minute (gpm) was used for the water balance model; however, the Applicant has identified that monthly contact water runoff rates may peak at rates significantly higher than 1,200 gpm.</p>	1
Emergency Procedures	<p>Include emergency response and/or contingency plans in the EIS, specifically plans related to hazardous materials/substances.</p> <p>Haile does not present an adequate management plan for dealing with disasters such as the two catastrophic events in South Carolina at the Ridgeway and Brewer Gold Mines.</p> <p>There is a potential for chronic and/or catastrophic contamination events that may occur both onsite through human or mechanical error and offsite during transport of hazardous wastes.</p>	5

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Emergency Procedures (Continued)	<p>SCDNR requested as a potential permit condition courtesy notification, in concert with SCDHEC, of significant excursions or contamination events.</p> <p>The Applicant should prepare a contingency plan in the event that accidents occur and environmentally harmful water be released into the watershed.</p>	5
Indirect and Cumulative Impacts	<p>All potential indirect and cumulative impacts must be evaluated before any permit is issued.</p> <p>Provide indirect, cumulative, long-term impacts on the surrounding area, particularly downstream habitats and water quality.</p> <p>Include construction, operation, and post-closure activities in the cumulative impacts assessment.</p> <p>Provide information regarding the scope and extent of anticipated future mining with a complete analysis of calculated indirect and cumulative impacts.</p> <p>Include in the cumulative impacts assessment future mining expansions beyond the current permit boundary into waters of the United States, triggering the need for a new Section 404 permit.</p> <p>Provide full accounting of direct and indirect impacts on onsite wetlands and streams to include mitigation calculations for biological and hydrological impairments likely to occur through shading, fragmentation, and sedimentation.</p> <p>Adjust the required credit calculations to include all wetlands and streams likely to experience secondary impacts.</p> <p>The use of the term “temporary” is misleading because temporary impacts typically occur for a period of 1 year or less, whereas Project impacts on water quality, hydrology, and wildlife and aquatic habitat would be on the order of decades.</p> <p>Sandhills streams are often naturally low in pH, and an increase would be more properly described as an “effect” rather than an “enhancement.”</p> <p>Significant secondary and cumulative effects may affect remaining onsite wetlands regardless of whether the dominant wetlands type, palustrine forest, is accustomed to varying hydrologic regimes.</p>	15

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Indirect and Cumulative Impacts (Continued)	<p>Cumulative effects from mining may change site hydrology because the true impact of the dewatering activity on groundwater conditions outside the Haile property remains generally unknown and unpredictable.</p> <p>The Project would alter surface flow patterns and groundwater table elevation, which would lead to changes in inundation periods and changes in vegetation composition, with concomitant loss of wetlands.</p> <p>The Applicant needs to define the amount of mining that is anticipated in the reasonably foreseeable future so that cumulative impacts can be considered at the present time.</p> <p>Indirect and cumulative impacts on Camp Branch need to be documented and considered.</p> <p>Other metals associated with gold mineralization of concern to SCDNR include silver, arsenic, molybdenum, tellurium, and copper.</p>	
Post-Closure and Reclamation	<p>Provide post-closure monitoring plans that address protocols, parameters measured, interpretation of results, and reporting requirements.</p> <p>Include construction, operation, and post-closure activities (not just the placement of fill) of the mine, with clear articulation of the direct, indirect, and cumulative impacts of each phase.</p> <p>Based on review of historical reclamation efforts, SCDNR believes that the mine site could be reopened and reclaimed, and that many stream functions can be re-achieved.</p> <p>Opportunities may exist to develop post-mine closure partnerships for the benefit of natural resources and users.</p> <p>SCDNR requests additional information on what contaminants will be monitored and on post-closure monitoring plans.</p>	5
Compensatory Mitigation Plan	<p>The proposed mitigation plan leaves an unmet mitigation obligation of at least 697.7 wetland credits and 89,917 stream credits, and the preservation sites are not adequate for the remaining credit balance.</p> <p>Many of the streams are in a different ecoregion from the impact area, which may provide out-of-kind mitigation as compared to the impact areas; in addition, the success criteria are questionable.</p>	32

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Compensatory Mitigation Plan (Continued)	<p>Refine and expand the mitigation plan to provide the adequate amount of stream and wetland credits to offset the impacts, with additional credits from Slate Belt and Sand Hills ecoregion type wetlands and streams.</p> <p>The revised Conceptual Mitigation Plan (CMP) incorrectly classifies streams and wetlands. Virtually all are Sandhills type, which is a unique and limited resource in South Carolina and home to a host of conservation priority species.</p> <p>A final mitigation plan must comply with all requirements of the 2008 Mitigation Rule.</p> <p>The revised CMP is fairly thorough in detail, and mitigation efforts have been placed to enhance conservation areas, improve water quality, and provide ecological uplift to the Carolina heelsplitter and Sandhills chub.</p> <p>The conceptual mitigation plan works toward restoring and improving water quality and aquatic function in the entire watershed by focusing on headwater areas located within the recently developed Lynches River total maximum daily load.</p> <p>Some mitigation sites are still under negotiation and are therefore uncertain.</p> <p>The amount of credit is barely more than the minimum required, and substantially more mitigation should be required for the proposed Project because it would have large impacts on waters of the United States</p> <p>Using restrictive covenants in the absence of a conservation easement is generally not acceptable for large mitigation projects.</p> <p>Provide a minimum average buffer width of at least 150 feet, as opposed to the 50–75 feet proposed in the CMP.</p> <p>Wetlands were assessed using the Wetland Evaluation Technique (WET) method, which is not necessarily the best to use in assessing pocosin wetlands.</p> <p>The 161.81 acres classified as pocosin wetlands by the Applicant are ARNIs.</p> <p>Some portions of the modified CMP are too vague to assess the adequacy of the mitigation.</p> <p>The CMP supports protection and recovery efforts for the Carolina heelsplitter in the Lynches River watershed by protecting 1.3 miles of critical habitat in Flat Creek.</p>	

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Compensatory Mitigation Plan (Continued)	<p>Provide additional information on the monitoring plan designed to detect construction-related, operational, and post-closure impacts on aquatic fisheries (including downstream of the site).</p> <p>The Reclamation Plan may not restore Haile Gold Mine Creek, North Fork Creek, and associated wetlands to a near-natural state.</p> <p>Consult and involve SCDNR in reclamation plans to ensure the maximum opportunity to restore natural resource functions and provide public use and natural resource economic opportunities on the site upon closure, if not before.</p> <p>While the mitigation plan focuses on actions such as bank stability and cattle exclusion, it lacks success criteria and monitoring methods.</p> <p>Monitoring should be conducted at sites downstream, including the confluence of the Little Lynches River and Lynches River.</p> <p>No water quality or fish monitoring is described in the plan, and we are concerned that impacts from the mine site will not be accounted for downstream.</p> <p>The Applicant should develop a monitoring and reporting plan for water quality and fish that identifies specific parameters to be measured and sampling methodologies.</p> <p>The Applicant should revise the CMP to include water quality monitoring and specific criteria that will demonstrate plan success to resource agencies.</p> <p>Mitigation should be provided for wetlands and streams that will be biologically and hydrologically impaired through shading, fragmentation, and sedimentation.</p> <p>An appropriate mitigation plan for the Sandhills chub (<i>Semotilus lumbee</i>) should be developed in consultation with SCDNR.</p> <p>The proposed CMP incorporates a watershed approach and would preserve large contiguous areas of the Flat Creek watershed.</p> <p>The proposed stream mitigation is out-of-kind and does not address the loss of Sandhills chub habitat.</p> <p>The proposed stream mitigation is approximately 80,000 stream credits short of the requirements.</p>	

Summary of Comments Received on the Joint Public Notice and Supplemental Information Submittal by Haile Gold Mine, Inc. (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Compensatory Mitigation Plan (Continued)	<p>SCDNR recommends appropriate in-kind Slate Belt and Sandhills stream mitigation opportunities be sought elsewhere within the watershed.</p> <p>SCDNR requests that an appropriate restitution plan be provided to compensate for any wildlife and fisheries mortality or other natural resource impacts that may result from the proposed Project.</p> <p>SCDNR requests an explanation as to any protective agreements and/or mitigation that may have been included in any permits issued during the early 1990s.</p> <p>The Joint Public Notice lacks sufficient detail regarding the proposed CPM in light of the scale and significance of the overall proposal.</p>	

Appendix J

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS**

Issue	Substance of Comments	Approximate Number of Comments
General	<p>We are in support of this Project.</p> <p>It's our responsibility as American citizens to allow mining, not just for added jobs, but for the products we need as a country; but to be sure it's regulated so that it continues wisely & responsibly.</p> <p>The right decision would be getting these people the permit to operate.</p> <p>I hate to see someone else make money by destroying the countryside with bad promises.</p> <p>I would urge approval of the permit and would actually like to see it being approved yesterday.</p> <p>I implore you to deny approval for this permit.</p> <p>We have an opportunity to exceed public expectations by forming an expert panel of technical advisors with representatives from supporting agencies as well as the highest level of consulting technical environmental expertise that can be obtained for this Project.</p> <p>I am respectfully requesting the permit for Haile Gold Mine be denied in its current state.</p> <p>I am not opposed to the gold mine mining in the area; however, I am opposed to mining that would be within 5 square miles of my residence.</p> <p>For my children's sake and for the future of our environment please do not issue these permits.</p> <p>Who will be liable for any lawsuit that will occur if the springs and creeks dry up around the mine property? Because it will be the private citizens against a rich corporation and we will have no money to fight against them.</p> <p>We have precious natural resources in this state that are dwindling every day because of bad decisions on issues like this.</p> <p>Information from Brewer, Ridgeway, or other gold mines in the region should be used to help inform and develop environmental and social best practices for this Project.</p> <p>There is negative skew in the information provided about the Project. Why not tell people about the reclamation, the wetland improvements scheduled, the wetlands protected?</p> <p>Your information pamphlet does a HUGE disservice to the community and company by demonstrating bias in the negative. You could easily have demonstrated a balanced review of the proposed activities – digging AND reclamation.</p>	30

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)		
Issue	Substance of Comments	Approximate Number of Comments
General (Continued)	<p>There are two options: an abandoned gold mine that is going to have environmental problems, or an operating gold mine that will produce jobs and economic development, and after it is finished, the site will be better than it is today.</p> <p>Yes, we want gold mining.</p> <p>The Project is going to benefit this community not only today, tomorrow, but in days to come.</p> <p>The construction and operation of such a large gold mine is something new for South Carolina.</p> <p>Why would we want to permit a strip mine this large in Lancaster County?</p> <p>If they get permitted and find the amount of gold they say is down there, what will keep them from buying everything in their path?</p> <p>I'm looking for you to help protect me and our grandchildren.</p> <p>Gold mining is a nasty, dirty business from which very few people derive a great benefit.</p> <p>It is obvious that the community as a whole is in favor of reopening the mine.</p> <p>Our proposed mining would use contemporary ore processing and water management to minimize environmental impacts.</p> <p>It would be a sin and a shame to turn down 800 jobs for the poor area.</p> <p>We are proud to be part of the Lancaster County efforts to provide jobs and restore a strong economy.</p> <p>The people of Lancaster County, where Haile Gold Mine is located, strongly support the Project. The county has a long history with gold mining and welcomes the return of gold mining at the Haile Gold Mine. These are important factors to be included in the EIS.</p> <p>When I decided to work for Haile in 2009, we had no reservations in purchasing property 2 miles from the mine. We were not, and still are not, concerned with dust, noise, or bad chemicals.</p> <p>Please just make the mine folks be as safe as humanly possible.</p>	

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Public Involvement	<p>Plan some regularly scheduled public information meetings for direct contact with the community.</p> <p>Permit the media at meetings that involve the community.</p> <p>Kershaw is one of the most remote and difficult to reach towns in SC and I really think the U.S. Army Corps of Engineers (USACE) should find a more appropriate location for this scoping meeting - Columbia, the state capitol, or in Lancaster, the county seat.</p> <p>Providing timely updates and information to interested members of the public as this Project moves forward will be important.</p> <p>I am requesting more information about the proposed Haile Gold Mine Project in Kershaw, SC.</p> <p>The USACE should require the maximum level of public disclosure here to ensure the public is fully compensated for the extensive aquatic impacts.</p> <p>I am concerned that I will not get adequate notice of future meetings.</p> <p>Please keep us informed of any future meetings and updates.</p> <p>We recommend that the USACE recognize the high level of community interest in this Project, and anticipate and allow for an extraordinary level of public information, including providing regular updates to information on the EIS website and quarterly public meetings prior and in addition to the publication of the draft EIS and the required public comment hearing.</p> <p>The USACE is encouraged to conduct the EIS process in an inclusive and transparent manner to ensure that all concerns are thoroughly and adequately addressed and the process meets public expectations.</p>	10
Permits and Regulations	<p>In compliance with state and federal permits, the Haile Gold Mine Project will set a high standard for environmental protection.</p> <p>The state of South Carolina has responsibility for issuing permits for discharges to surface waters, and will also have the opportunity to provide its views on water quality through the Section 401 water quality certification.</p> <p>I am concerned with overregulation.</p> <p>The permit application is well covered, and the USACE is going to regulate it.</p>	7

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Permits and Regulations (Continued)	<p>There are many USACE districts throughout the country that might not allow a permit to impact 162 acres of wetlands in a year total.</p> <p>The many residents working for Haile Gold Mine, Inc. will certainly take care of the environment by following both federal and state regulations.</p> <p>We recommend that the Applicant provide a thorough explanation of Section 404 and other USACE and other federal and state agency regulatory requirements.</p>	
The EIS	<p>We have high expectations for the EIS process and believe it's an important means of protecting the public's interest and the environment.</p> <p>We encourage the USACE to conduct the EIS process in the most inclusive and transparent manner to ensure that complex concerns are thoroughly addressed.</p> <p>Involve a multi-participant process in the alternatives analysis and review of the draft documents, and that could include regulatory agencies, both federal, state, as well as the local agencies in the community, and environmental conservation groups.</p> <p>In order to produce an adequate EIS in this instance, it is crucial that the Romarco technical team collaborate as much as possible with outside experts.</p> <p>We recommend the USACE pay particular attention to the recommendations contained in the Kuipers Report¹ for how this EIS process can be enhanced to tackle the relevant environmental, engineering, and economic issues here.</p> <p>We believe this Project deserves the highest level of scrutiny and public involvement due under the National Environmental Policy Act (NEPA).</p> <p>The scope of the EIS should be closely related to the USACE's jurisdiction over activities at the Haile Gold Mine Project, which is based on its authority to issue permits under Section 404 of the CWA for discharge of fill material into waters of the United States, including wetlands and streams.</p>	15

¹ See Exhibit A to the comment letter submitted by the Southern Environmental Law Center (December 9, 2011) in Appendix G.

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
The EIS (Continued)	<p>The USACE's evaluation of the environmental impacts of the Project must include appropriate deference to the state's authority over mining, water quality and associated water related impacts. Matters within state and local jurisdiction should not be subject to protracted review in the federal EIS.</p> <p>The process of deciding to prepare an EIS took a considerable amount of time, which has prolonged processing of the permit application. In fairness, because the review of this permit application has already taken a great deal of time, the USACE should proceed promptly with the EIS.</p> <p>We request that the USACE seriously consider our proposal to establish a technical working group (or other similar mechanism) to provide recommendations on key issues as this process moves forward.</p> <p>Conducting a transparent and scientifically thorough EIS process is critical, and we suggest that the proposal for assembling a group of technical advisors is one way to achieve this goal and to avoid potential pitfalls down the road, such as litigation, regarding the sufficiency or adequacy of an EIS.</p> <p>We recommend that the USACE encourage the other relevant state and federal agencies to actively and substantively participate in the EIS process through information sharing, input and coordination.</p> <p>This EIS should include a thorough review of both regional and national mine history and environmental impacts for both historic and modern mines to allow for a more complete understanding of the potential impacts and mitigations common to large mine operations.</p> <p>The USACE must balance benefits which reasonably may be expected to accrue from the proposal against the Project's reasonably foreseeable detriments.</p> <p>The USACE should also weigh the intrinsic value of gold, its uses, and the desirability of its extraction versus the suite of environmental and economic risks associated with this proposal.</p>	
The Applicant	<p>Romarco has been honest with our town and making sure that all the people are safe in Kershaw.</p> <p>We trust Romarco and everything they've done in Kershaw.</p> <p>The Romarco team has high integrity.</p> <p>They have invested a great deal of time, money, and effort in this community.</p>	17

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
The Applicant (Continued)	<p>All these agencies will check the company practices.</p> <p>I believe it's a great company to be in Kershaw.</p> <p>We stand behind Haile Gold Mine, Inc. 100 percent because they have brought in jobs and goodwill toward everybody here.</p> <p>We're very proud of them, and we're very proud of Kershaw.</p> <p>They're a good neighbor for our community.</p> <p>The Romarco team reached out to conservation leaders to provide a brief about their plans for the Haile mine.</p> <p>It's a great company to work for.</p> <p>The gold mine has already proved to be a good neighbor by bringing jobs and supporting the economy of the town of Kershaw and Lancaster County.</p> <p>I have been with Haile for a year and I am pleased to be working with this company because of their safety and environmental excellence.</p> <p>The current operators that are trying to get this mine up and running will sell it once they get the permits.</p> <p>Romarco, Haile Gold Mine, Inc. is of the highest integrity in their dealing with the soil and people of the area.</p> <p>I can say that there is NO comparison with Haile and the other companies that I have worked for in SC and other states. They are to the extreme on taking care of our environment and the safety of their people and the safety of the community.</p> <p>They care about humanity, and they give of themselves and what they have personally.</p>	
Purpose and Need	<p>The USACE should remain vigilant in guarding against an overly restrictive statement of purpose as this application progresses to the EIS stage.</p> <p>The USACE needs to independently evaluate the purpose and need statement for the Project.</p> <p>The present proposal by Romarco is premature and would be better left for consideration once the minable reserves associated with this particular Project are more certain and an operations and reclamation and closure plan conceptualizing the entire deposit and associated impacts is available.</p>	3

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Mining Operations	<p>The manufacturing process appears to be state-of-the-art.</p> <p>Haile Gold Mine, Inc. has new, sound technology.</p> <p>The gold mine itself is nothing new. It's been here 180 years.</p> <p>They have a high standard of environmental practices.</p> <p>We take seriously their determination to make this proposed mine the industry's most environmentally sound operation in the country.</p> <p>They have the most modern equipment.</p> <p>This mine to me appears to be much grander in scale, with a larger footprint, digging far deeper than the previous mine efforts at 800, 900 feet deep, so it's a different scope altogether.</p> <p>How can you guarantee that the liner in the pond will last, and who will monitor this?</p> <p>The Project proposal includes careful handling of the chemicals used to extract gold from crushed ore. With this advanced ore processing design, the public should not have concerns about cyanide entering the natural waterways of South Carolina.</p> <p>Haile Gold Mine, Inc. has also developed an Overburden Management Plan that identifies materials that pose acid drainage or metal leaching risk so that they can be segregated and managed in a way that decreases environmental risks during and after mining.</p> <p>Haile will reclaim the landscape with grading and vegetation as it continues mining sequentially in additional pits.</p>	11
Alternatives	<p>Every effort should be made to explore alternatives that would reduce wetland impacts.</p> <p>The EIS evaluation should include a multi-stakeholder process for development and evaluation of alternatives, with stakeholder representatives from the city/county government, state (mining reclamation and water quality) and federal agencies, local citizens, environmental/conservation groups, the Project proponent, as well as potential opponents.</p> <p>Alternatives must consider the location of alternatives, alternatives for waste rock or overburden, tailings, and associated roads.</p> <p>Alternatives must consider operational alternatives that include options for processing and mining that could reduce wetland impacts.</p>	20

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Alternatives (Continued)	<p>Assess alternatives to the use of surface water streams and discharge points that either utilize or impact surface water.</p> <p>Use Multiple Accounts Analyses (MAA) that weighs social, economic, and other factors in the EIS process.</p> <p>The use of combined agency and environmental committees could be used to develop a full range of alternatives, particularly to the possible destruction of the 162 acres of wetlands.</p> <p>A complete alternative analysis needs to be performed to reduce impacts on the bare minimum needed to carry out the objective of the mine.</p> <p>Because gold mining is not a water-dependent activity, it is the burden of the company with independent verification by the USACE to determine the feasibility of the least damaging alternative.</p> <p>Can there be underground mining here? If so, would that be less harmful to the environment and to the community?</p> <p>Analyze the proposed plan and alternatives for critical failure modes and effects.</p> <p>We urge that the impact analysis be suitably broad to be able to fully and fairly compare the potential location, mode, and functional alternatives.</p> <p>The USACE must ensure faithful adherence to the required alternatives analysis and avoidance and minimization [of wetland impacts] requirements.</p> <p>Alternatives should be considered and developed to avoid or otherwise minimize wetlands and stream impacts.</p> <p>Alternatives to any proposed usage of streams or discharge points that would utilize or impact existing streams or wetlands should be considered as part of the EIS.</p> <p>We recommend that the Applicant prioritize objectives (e.g., avoidance versus mitigation) and identify the alternative most likely to succeed in meeting those objectives.</p> <p>It is recommended that the USACE rely upon accepted evaluation tools, including Multiple Accounts Analysis (MAA) and/or Failure Modes and Effects Analysis (FMEA) or hybrid process to assist in evaluation of the proposed plan and alternatives considered.</p> <p>The EIS must address reasonable alternatives, not every alternative conceivable to the imagination.</p>	

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Alternatives (Continued)	<p>Reasonable alternatives for the Project can occur only where there is an economically feasible gold reserve.</p> <p>The Project purpose should not be described as gold mining in the Carolina Slate Belt. There is insufficient information to conclude that mining at other locations in such a vast region would be reasonable or practicable. Other mining sites are not reasonable or practicable.</p>	
Ecosystem and Watershed	<p>Because the construction of a "viable mine and mill to recover precious metals from the Haile gold deposit" is not a water-dependent activity, Romarco must "clearly demonstrate" that no practicable alternatives exist that do not require a discharge into wetlands or other special aquatic sites.</p> <p>We request that the USACE ensure compliance with the watershed planning aspects of the Rule² and explain how the proposed mitigation plan was guided by these important concepts.</p> <p>Loss of streams through pit development and associated impacts on watershed beneficial uses, aquatic integrity and fisheries should also be considered in this EIS.</p> <p>Focus the EIS on the particular waterbodies (and watersheds) that will or may be impacted by the Haile Gold Mine Project activities. Haile Gold Mine Creek and Camp Branch Creek, which are on the Project site and will be directly impacted by the Project. It makes little sense to include watersheds or any other areas that will not be impacted by the Project.</p> <p>We recommend that the Applicant provide background information as to the site-specific and regional wetlands and streams ecology.</p> <p>What safeguards will be put in place to stop the water from entering the Little Lynches River if they have a dam failure?</p> <p>Why would you knowingly approve something that will surely harm the environment, plants, animals and people of this area?</p>	7

² Final Rule on Compensatory Mitigation for Losses of Aquatic Resources.
http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Surface Water and Groundwater Quality and Supply	<p>Assess ground water hydrology impacts resulting from the mined water and other activities.</p> <p>Look very hard at associated water quality impacts.</p> <p>Using a stream as part of the mining operation shouldn't be allowed.</p> <p>Look at dewatering activities to make sure that wetlands aren't inadvertently dried up by lowering the water table.</p> <p>There have been significant water quality impacts from previous mines on this site and we want to ensure that this does not happen again with this much larger operation.</p> <p>Seven and a half miles of stream is a tremendous amount of streams to be impacted.</p> <p>It is important to use the years and years of baseline and water quality data collected through previous operation and closure of the Haile Gold Mine Project sites.</p> <p>I'm concerned for the cleanliness of the ground water. The tailings facility with all of the pollution is planned to be too close and risks contamination of my well and drinking water.</p> <p>Will it lower our water table digging a hole of this magnitude?</p> <p>How do they know which underground stream is affected?</p> <p>I am concerned that residents would possibly be forced to receive water from the city if mining contaminates the ground water in that area. This poses a very important problem for my family since city water does not supply my residence.</p> <p>This mine will be devastating to our environment and pollute our drinking water.</p> <p>What will happen to all of the streams and creeks when they dig a hole 340 feet below sea level?</p> <p>Where will the water come from for their mining operation? Some estimates put that amount at 1,500 gallons per minute.</p> <p>This proposal itself involves serious water quality and quantity threats to water resources.</p> <p>The hydrology of the area should be carefully studied to determine the expected impacts on surface water and groundwater, as well as the risks to water resources should there be a spill of toxic waste or other problem.</p>	30

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Surface Water and Groundwater Quality and Supply (Continued)	<p>More detailed information is needed to assess the streams on the site.</p> <p>Baseline water quality data should be well studied and established before any work is begun.</p> <p>In order to work 840 feet or more below the surface of the ground in an area where the water table is approximately ten feet deep, the Project includes extensive dewatering efforts, which should also be analyzed for feasibility and potential problems.</p> <p>Groundwater hydrology impacts as a result of mine dewatering and other activities should be addressed, including the potential of lowered water tables to impact wetlands and agricultural water use.</p> <p>Operational use of water may be significant and potential impacts on perennial streams, groundwater resources, agricultural and domestic water users should be considered in this EIS.</p> <p>Hydrological investigations that identify likely pathways relative to both sources and receptors should be completed and evaluated with respect to the proposed plan and various alternatives.</p> <p>Hydrological modeling should be performed with the intent to calibrate the model based on actual monitoring data during the mine life.</p> <p>Acid mine drainage will tremendously impact the water quality. What are the costs of contaminated water? What process, if any, will keep the contamination from happening?</p> <p>Will our area be affected by acid rock drainage or contaminated by Arsenic and Selenium? If so, how will Haile Gold Mine, Inc. proceed to mitigate this contamination during the proposed Project and after the mine has closed?</p> <p>I'm concerned about the potential of movement of the flood plains, exposing people who have never been in a flood plain to the hazard of floods.</p> <p>How much will the gold mine use in its daily process? Will they get this water from ground wells? How will this affect the groundwater hydrology including potentially lowered water tables? If wells are not enough, will the Haile Gold Mine need to obtain water from the Lancaster Water & Sewer District or the Town of Kershaw?</p> <p>In the event of a drought will operations at the mine be curtailed or will the community be expected to go without while the mine operates?</p>	

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Surface Water and Groundwater Quality and Supply (Continued)	<p>The USACE must set a pertinent geographic scope for consideration of surface and ground water.</p> <p>The history of this location shows little to no environmental impacts despite the mining that has occurred. Information shows that past mining activities are not contributing to any water quality impairments.</p>	
Acid Mine Drainage and Contaminant Risk	<p>Possibly the primary water quality impact we should be concerned with is acid mine drainage. This has been a very real problem at gold mines, and it can persist for centuries.</p> <p>Our wet environment here in the east makes acid mine drainage a very different problem than in the dry environment of the west, where most of the gold mining has taken place in this country.</p> <p>The proposed plan should be reviewed by independent experts to ensure that it will adequately deal with acid mine drainage at this site.</p> <p>The potential for the release of pollutants, such as arsenic and selenium, should be addressed since they can cause significant wildlife impacts.</p> <p>Any pollution that's released here will find its way into our rivers downstream.</p> <p>Our neighborhood mainly consists of underground wells Is it possible for cyanide to enter our water supply over a period of time, and should our wells be monitored for that?</p> <p>It is not a matter of "if" the cyanide will find its way into the air, groundwater, streams, rivers, etc. of the community but "when".</p> <p>It is not worth the significant negative impact that will be felt by all during and long after Romarco has extracted what they wanted and left another Superfund Site for South Carolina to clean up.</p> <p>Risks are present not only in the added chemicals (e.g., cyanide for processing and nitrogen from explosives and breakdown of cyanide), but also in the metals and sulfates associated with acid drainage and selenium and arsenic associated with neutral or alkaline drainage from the open pits, waste rock piles, or impounded tailings.</p> <p>The USACE should seek out information from other communities, particularly in the Western United States, on their economic and environmental experiences with cyanide gold mining.</p> <p>We recommend that as part of the EIS process, water quality information from other analogous mine sites in South Carolina be</p>	14

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Acid Mine Drainage and Contaminant Risk (Continued)	<p>collected and examined, together with the effectiveness of applied mitigation measures.</p> <p>The USACE must address acid mine drainage and the proven effectiveness of the proposed mitigation measures, and alternative or additional mitigation measures, as a key issue in the EIS.</p> <p>The issue of neutral/alkaline drainage together with the potential for acid drainage strongly suggests that a thorough and exhaustive analysis of potential geochemical issues through both static and long-term kinetic tests, together with water quality and water balance modeling must be conducted in support of the EIS.</p> <p>We further recommend that the USACE and other regulators utilize our Predictions report and the industry's Guide to Acid Rock Drainage (GARD) in their deliberations.</p>	
Wetlands	<p>Wetlands are of critical importance to water quality.</p> <p>There are certainly challenges with wetlands, water quality, and acid mine damage.</p> <p>Protecting the wetlands must be the USACE's highest priority.</p> <p>Assess the potential for lower water tables and their impact on wetlands.</p> <p>The wetland mitigation preparation looks good.</p> <p>We're concerned by the impact of 162 acres of wetlands and the damming and use of the stream as part of the mining operation.</p> <p>The 162 acres of wetlands and approximately seven linear miles of stream to be impacted by the mining activities here rival the total amount of wetlands authorized for filling for all the projects the USACE has permitted (combined) from 2008 to 2010 in South Carolina and exceeds the extent of streams impacted during the same timeframe.</p> <p>Every acre of wetland destruction needs to be fully justified with a finding of no feasible alternatives.</p> <p>162 acres of wetlands is a tremendous number of wetlands.</p> <p>The wetlands proposed for destruction are Aquatic Resources of National Importance (ARNI), and as such, we believe the USACE needs to pay particular attention to avoidance and minimization strategies before jumping to mitigation.</p> <p>This Project presents a good opportunity for the USACE to implement the Final Rule on Compensatory Mitigation for Losses of Aquatic</p>	14

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Wetlands (Continued)	<p>Resources under section 404 of the Clean Water Act.</p> <p>Use of the Wetlands Evaluation Technique (WET) technique for the wetlands functional assessments deserves greater scrutiny and explanation.</p> <p>The USACE should address wetlands as one of the key issues in the EIS.</p> <p>I have noticed personally that most of the acres that are being classified as "wetlands" are just a dry ditch to an old Tennessee farmer. I just don't understand the classification of "wetlands".</p>	
Wildlife and Vegetation	<p>I am an adjoining property owner. I am concerned that the mine will pollute my environment and kill off much of the wildlife.</p> <p>There are large populations of wildlife in this area and I haven't heard of any protection plans to be put in place for them.</p> <p>How will wildlife be protected from the 500+ acre treatment pond?</p> <p>How far from the pit will surface water be leached from the soil and dumped into the pit and the plant life stunted?</p> <p>The proposed mining process involves the use of toxic chemicals as part of its extraction process, which poses serious threats to water quality and aquatic species, including potential harm to the federally-listed Carolina heelsplitter.</p> <p>We encourage the USACE to fully examine potential impacts on the federally endangered Carolina heelsplitter, which is known to inhabit Flat Creek.</p> <p>The USACE must be sure to consult with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts on endangered heelsplitters.</p> <p>The existence of the tailing pits poses a hazard to local wildlife.</p> <p>The proposal includes plans to backfill the pits and address water quality; however, more details are needed about how quickly the backfilling will take place, what the contamination risk might be prior to backfilling, and what are the long-term impacts on wildlife.</p>	9

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Land Use	<p>Our countryside will be transformed from a beautiful rural land to an industrial site.</p> <p>What will happen to the soil after the digging and cyanide process is in place? What happened in Ridgeway SC? There was digging/drilling there some time ago, years later Haile Gold Mine, Inc. has the area, digging is complete and the area has not been made whole.</p> <p>I have all types of wildlife running across my land. There are deer, coyote, wild turkey, hawks, rabbit, raccoon, and squirrel all as my wild neighbors. I also have a large population of Ruby Throated Hummingbirds and Bluebirds. It's peaceful and quiet here, just like I wanted when I purchased my land and built my home. I am concerned with the wildlife and kills offs.</p> <p>The Mine has purchased over 10,000 acres. This will transform the entire portion of the country into a barren strip mined wasteland void of trees, wildlife and any form of rural attraction for homes or farms.</p> <p>My plans for the property include a well for irrigation and possible water supply. The tailings facility with all of the pollution is planned to be too close and risks contamination of my well and drinking water.</p>	5
Socio-economics	<p>There is high unemployment (25-30%) in the area.</p> <p>The Project would bring much needed jobs.</p> <p>We need jobs!</p> <p>This mine has significant economic opportunities for the people of Kershaw and the surrounding area.</p> <p>The economic impact that this mine's going to have is huge.</p> <p>Please allow the mine to provide 250 jobs.</p> <p>We are hopeful that there will be a place here to mine gold, provide jobs, and help people help themselves.</p> <p>If there's gold in the ground and it could be gotten safely and provide jobs, that's what we want.</p> <p>Make sure we recognize the cost to begin with.</p> <p>Now that we have Haile in town, more small businesses are opening or able to stay open.</p> <p>I don't feel the 275 jobs (which the mine has reported to the media as 800+ new jobs) are worth the damage, pollution and long lasting destruction to our environment and area.</p>	32

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Socio-economics (Continued)	<p>I know they will not hire all of these people they are talking about hiring because it doesn't take that many people to run a mine.</p> <p>Permits need to be issued as timely as possible for the sake of jobs and the community. Most small businesses in this area have failed because of the economic situation of this county.</p> <p>This county and community need jobs.</p> <p>We are concerned about the negative environmental and economic impact.</p> <p>The Kershaw community requests information on Hardrock Mine Financial Assistance.</p> <p>There will be no variety of economic development. The area won't grow, but will instead shrink from people taking their buy out and running away from the mine.</p> <p>A certain percentage of the jobs go to actual Kershaw SC residents. I have noticed that so far Haile Gold Mine, Inc. has brought in out of town workers to fill those jobs.</p> <p>There should be job training for the lower paying jobs.</p> <p>Haile Gold Mine, Inc. lists temporary housing as one of the benefits for this Project. How many temporary employees will the mine bring into this community? Will this result in temporary style camper parks and if so, in what area of Lancaster County would they be placed?</p> <p>How will the state of South Carolina oversee such a large project with the few employees they currently have in the Department of Health and Environmental Control mining department?</p> <p>The future value of the land is in jeopardy. My land will be worth less than I anticipated when I built my home before the mine came in.</p> <p>Mining operations that occur in smaller communities can impact the schools, the housing, and the infrastructure in the community.</p> <p>I'm concerned because all of the impacts have not been explored and made known to me, the owner and resident of an adjoining property.</p> <p>I understand that in the current economy the mine would cause more revenue within the local community, but I am not willing to sacrifice the safety and well-being of my family to accommodate these actions.</p>	

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Socio-economics (Continued)	<p>Mining operations have the potential to force a dramatic expansion of local infrastructure followed by a collapse in the tax base after the mine closes. This "boom and bust" cycle deserves careful analysis to minimize socioeconomic impacts on Kershaw and Lancaster County.</p> <p>Socioeconomic impacts on Kershaw and surrounding communities should be carefully considered in this EIS since a fluctuation in work force can negatively affect community-based services if the local government is not prepared and adequately funded to address the additional service needs (road maintenance, larger schools, emergency services, etc.).</p>	
Traffic	<p>Traffic, particularly during shift changes and at other busy times (e.g., during high level of contractor presence), may present public safety hazards as well as inconvenience.</p> <p>A traffic plan should be created to prevent traffic problems.</p> <p>We should take into account the increased traffic and where that will be. Highway 601 is already a busy road. Many 18 wheeler and large trucks travel that road daily. Added to that mix will be the mine traffic, and potential for large equipment to be on the road. This will make a dangerous mix for local residents who have to travel that road to gain access to their homes.</p>	3
Air, Light and Noise	<p>The noise from the drilling rigs is audible inside my home and in my yard. I'm concerned that the noise pollution level will increase dramatically.</p> <p>The mine has repeatedly told the residents and citizens of Kershaw that we will never even know they are there. Honestly, I don't believe them.</p> <p>Are the noise levels from the mine monitored and by whom?</p> <p>Our concerns are water and air quality.</p> <p>I'm concerned that the light pollution from the lights on the mine and plant will make night a thing of the past here. The light pollution has already increased since the exploration has been taking place.</p> <p>Noise from vehicle backup alarms, open pit operations and blasting, crushing and milling can all be significant, particularly to persons in close proximity to mine sites.</p> <p>Air quality, particularly in terms of fugitive dust, is another important concern that needs to be studied in the EIS.</p>	7

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Cultural Resources	<p>Several historic properties have been bought or are on the edge of the mine.</p> <p>The mine itself is a historical mine and site.</p> <p>It is not unusual to find old home places or homes and barns hidden back in the woods in this area.</p>	3
Recreation	<p>The mine will have so much property closed off to the residents in addition to the damage directly around the mine from the chemicals and pollution, many hunting and fishing areas will be eliminated. This will push residents to take their hunting and fishing to other areas as there will no longer be good areas here.</p> <p>The impacts on the wildlife will affect the ability to enjoy hunting and fishing recreational activities.</p>	2
Human Health	<p>I'm concerned about the cyanide exposure from air and rain to myself, my family and my animals.</p> <p>I am concerned for the safety and welfare of my children. The digging of pits near my home that would be a safety hazard for my children to fall in or the concussions from the blasts affecting them.</p> <p>I am concerned that the shock waves associated with blasting near my home would rupture my new baby's brain causing Shaken Baby Syndrome and possibly causing severe brain damage since the skull is not solid upon birth.</p> <p>Water resource protection for the health of the natural and human environment should be your primary concern.</p>	4
Indirect and Cumulative Impacts	<p>This mine is possibly just the first of many that we'll see here in South Carolina over the next decade and should be taken into account when looking at cumulative impacts.</p> <p>It is critical to make sure that this mine is developed in the most environmentally sensitive manner possible and that any subsequent mines are held to the same standards.</p> <p>Gold prices are high right now, and this is likely to start a number of mines that are interested in coming in this area and setting up operations.</p> <p>One mine at present might have a certain level of impact, but those impacts are multiplied by more mines opening in the area.</p> <p>We are concerned that the cumulative impacts from more than one mine will result in significant environmental degradation of the</p>	17

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Indirect and Cumulative Impacts (Continued)	<p>environment and local quality of life.</p> <p>The mistakes that might be made here in this analysis and in the setup of this mine are likely to be repeated by future mines so it's worth putting in the work now to make sure that cumulative impacts in the future are as limited as possible.</p> <p>We are concerned that this Project opens the door to mining of a scale and magnitude that South Carolina has never seen before.</p> <p>Although the region has a long history of gold mining, the proposed mine is far larger and the potential for environmental damage is far greater than we have seen in the past.</p> <p>The proposal must be analyzed in the context of the potential for this mine to expand and for other mines to begin operations in the region.</p> <p>The USACE must carefully evaluate this proposal in combination with other anticipated activities.</p> <p>The time and effort that the USACE puts into evaluating the cumulative impact of past, present, and reasonably foreseeable gold mining proposals has the potential to have important benefits for this community and others in the region as they evaluate and plan for future mining proposals.</p> <p>The USACE and other regulatory agencies are encouraged to consider the likely ultimate cumulative impacts should additional open pit or underground reserves be identified in the future for this Project.</p> <p>Any potential future gold mines would be subject to strict state and federal regulatory review and approvals (including USACE permits, if needed) when and if applications are filed.</p> <p>Romarco Minerals stands ready to work with the USACE and its contractor to describe property that it owns in South Carolina which is not included within the pending permit application, as well as why the prospect of future mining permit applications at those properties is uncertain.</p> <p>The geographic and temporal scope of the cumulative effects analysis in the EIS should take into account both the potential for the proposed mine to expand significantly, but also the potential for other mines to follow in its path.</p> <p>Not everything that anyone assumes might occur in the future qualifies for consideration as a cumulative impact. Additional mining of gold at other locations in the Carolina Slate Belt, near or far from the Haile Gold Mine Project site is not "reasonably foreseeable" and thus is not an</p>	

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Indirect and Cumulative Impacts (Continued)	<p>appropriate subject for cumulative impacts analysis.</p> <p>There are no other gold mining applications pending at the current time. Any discharges into waters of the United States (streams or wetlands) that might be associated with speculative future mining cannot be quantified at this time.</p>	
Post-Closure and Restoration	<p>Romarco is going to leave the property in better shape than it was when we first came here.</p> <p>They're dedicated to doing reclamation.</p> <p>Reclamation plans and post-closure monitoring can be very costly, so it is important to have a plan that's conservative to ensure that impacts are addressed over the long term.</p> <p>It is RARE to find a mine that intends to backfill and this one is a wonderful exception.</p> <p>When this Project is done, it will be reclaimed into a public use area for wildlife and people to enjoy.</p> <p>Once this mine has been depleted the last company to own it will deplete its cash assets and file for bankruptcy and leave us tax payers to clean it up.</p> <p>Who can guarantee the bond they put up will be enough to cover the cleanup cost 20 years down the road?</p> <p>What happens to the slop that is left over after the electrolytic process has been completed? There is no way that, despite guarantees to the contrary, this stuff can be eliminated permanently from the environment.</p> <p>Because water quality impacts can continue or unexpectedly arise after closure, monitoring for leaks, changes in hydrology, wildlife impacts or water contamination should continue well after the mine is closed.</p> <p>It is critical that Romarco have a bond that is large enough to secure the site's cleanup even in the case of unplanned expenses or an unplanned financial downturn by the company so that sufficient financial assurances are in place to address future impacts.</p> <p>Can you imagine what kind of eyesore this place will be 20 years from now?</p> <p>We strongly encourage the USACE to include consideration of the amount of financial assurance that would be required to be secured by the company on behalf of the state or federal government in the EIS, and believe the U.S. Environmental Protection Agency (USEPA) would</p>	22

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Post-Closure and Restoration (Continued)	<p>provide assistance to the USACE in this regard.</p> <p>The USACE should consider what uses would best serve the community for use of the site after closure, and should learn from the experiences of other mines in the area.</p> <p>The proposed reclamation and closure plan is a key part of any mining project and should be fully detailed and evaluated in the EIS.</p> <p>The plan should address interim closure (e.g., in the event of bankruptcy), closure and post-closure aspects, including any requirements for long term operation, monitoring or maintenance.</p> <p>There should be some kind of financial assurance that would cover any problems that may arise from an early closure of the mine such as bankruptcy.</p> <p>Romarco should provide a detailed reclamation plan that includes financial information.</p> <p>We are concerned that the mitigation will require long-term operation and maintenance, such as re-construction of the engineered cover, which could place a burden on taxpayers in the future if not adequately recognized and addressed.</p> <p>Utilize adaptive management planning in the determination of primary and contingency mitigation measures.</p> <p>Adaptive management planning is an important tool this EIS process should rely upon to determine required primary and contingency mitigation measures for predicted impacts associated with the proposed Haile Gold Mine Project.</p> <p>Is the proposed reclamation bond adequate for the Project as written and how was this number derived? What will happen if the price of gold drops and bankruptcy occurs?</p> <p>It would be beneficial for the USACE to convene a stakeholders' group of technical experts to ensure that the operation and reclamation plan will adequately protect our environment which would make the EIS process more open and would promote trust in the results.</p>	
Emergency Procedures	<p>Even the best engineering plans should be carefully reviewed by outside experts and agencies, and contingency plans should be in place to manage unexpected problems.</p>	1
Mitigation	<p>The use of combined agency and environmental committees could be used to evaluate the proposed mitigation and its effectiveness as well</p>	13

Summary of Comments Received during the National Environmental Policy Act Scoping Period for the Haile Gold Mine Project EIS (Continued)

Issue	Substance of Comments	Approximate Number of Comments
Mitigation (Continued)	<p>as alternative or additional mitigation measures.</p> <p>It is important that all water quality mitigation measures must be passive with no requirement of long-term maintenance operation.</p> <p>The Applicant should explain to what extent it examined mitigation banks, in-lieu fee, and permittee-responsible mitigation options as part of its proposal.</p> <p>If the scale and scope of the proposal evolves, then the scale and scope of the mitigation package will need to be rectified as well.</p> <p>Assess mitigation as a part of the alternatives.</p> <p>It will be important for the USACE to ensure that the wetlands mitigation package complies with the standards on preservation contained in the Rule³.</p> <p>We are concerned that heavy reliance on upland buffers as part of a wetland and/or stream mitigation package may not comply with the national goal of no net loss of wetlands.</p> <p>The actual mitigation worksheets that the Applicant, consultant, and USACE rely on should be made available as part of the EIS process with corresponding explanations regarding the factors used to complete such worksheets.</p> <p>We recommend that the Applicant assess potential for unforeseen or unexpected impacts on wetlands or streams and identify appropriate contingency plans for mitigation.</p> <p>We strongly recommend that the USACE and other regulatory agencies consider the multiple failure modes and consider their potential effect on the environment as well as likelihood of occurring, and consider additional mitigation measures to address the high potential for water quality impacts that would result from the proposed plan.</p> <p>We are concerned as to the long-term viability for the proposed mitigation measures (e.g., source control through engineered covers) as they have not been tested and proven effective over time.</p>	

³ Final Rule on Compensatory Mitigation for Losses of Aquatic Resources.

http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf

**Summary of Comments Received during the National Environmental Policy
Act Scoping Period for the Haile Gold Mine Project EIS (Continued)**

Issue	Substance of Comments	Approximate Number of Comments
Mitigation (Continued)	<p>Who will pay the bill if a reclamation bond is approved and proves to be inadequate?</p> <p>As currently presented in the proposed mitigation plan, natural resource functions attained through the on-site reclamation will be supplemental to the off-site compensatory mitigation that Haile has proposed.</p>	

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